What are the differences and similarities between the American venture capital financing model and the German venture financing of entrepreneurial start-ups?

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ABSTRACT,

In the last decades, venture capital companies received more and more attention in the context of funding entrepreneurial start-ups. European countries such as Germany are still lagging behind the United States in the size and depth of venture capital activity. Through the investigation of the American financing model by Ruhnka & Young (1987), literature review, and case study of three different German venture capital firms, this paper identifies differences and similarities between both markets. Hereby, the characteristics of each venture capital market and influential factors of their VC companies provided insight into the entrepreneurial study. Therefore, it can be concluded that the economic history and difference in social capital and entrepreneurial spirit were the most important drivers for the existing gap between both countries. While researchers and investors indicated there is a need for more ambiguous, and risk-taking German entrepreneurs, American VC's rather focus on the detection of breakthrough ideas in the process of funding. However, in the recent years, both governments facilitated further venture capital activity through tax benefits and additional funding opportunities. The creation of the world's leading venture capital hotspots in the Silicon Valley and Berlin had a tremendous influence on the development of both markets and helped the economies to grow remarkable.

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Keywords
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1. INTRODUCTION

Most literature on venture capital characteristics has focused on the analysis of a single market. However, this paper aims to refocus the attention of single market characteristics while seeking for a comparison between the German and American venture capital industry, in order to provide insight and overview for entrepreneurs, society, and government in both countries. Hereby, this international and comparative perspective on venture capital firms may be used as a guide for future interventions.

According to K.A Francis (nd), funding is the fuel on which business runs. Start-ups can perform a lot of business development for a while without funding, but refueling the tank with new funds is essential for achieving sustainable growth. Cassar (2014) supports that by communicating that financial capital is one of the necessary resources required for enterprises to form and subsequently operate. However, the process of funding is not everywhere the same. Entrepreneurial culture, governmental facilitators, and availability of funding sources determine the funding lifecycle within different countries. Especially venture capital is one of the most emerging sources of funding within the last decades. According to Fohlin (2016), venture capital received widespread popular recognition in the United States in the 1990s. This was facilitated through a series of innovations in bio- and information technology, which resulted in more start-ups and needs for funding. Financially backed firms started to not just providing capital, but also supply advice, mentoring, monitoring and business connections (Fohlin 2016). Harmon (2000) therefore describes venture capital by starting his book “Zero Gravity”, with a very popular belief: “the venture capitalists are the new power brokers, banks, management providers, gurus and mothers who hold the hands of the newbie idea-is, taking them past the training wheels stage into rocket racers. It is smart money, the people, and their capital. It has to be smart – there is no time to make the wrong moves in a world where every great idea has a dozen imitators in sixty seconds." [8, pp.3-4] Although this already indicates the importance of VC’s in today’s financial markets, Germany experienced a much later venture capital revolution. According to the “Deutsche Bundesbank” (2000), Germany’s venture capital market expanded dramatically between 1997 and 2000. Therefore, the volume of venture capital funds and investments companies increased and resulted in a large proportion of unused stocks. This indicated the very moderate rate of business start-ups, due to the lack of financing and entrepreneurial spirit (Deutsche Bundesbank 2000).

However, recent studies show that the German government embraced the development of the venture capital market through a facilitation of their environment over the last two decades. German venture capital firms still are not achieving the investment activity recognized in America, whereas they are on the right track, with the USA market as their role model. Therefore, it’s important to determine the characteristics and infrastructure of the two venture capital markets to conduct differences and similarities to receive more insight.

Commonly there are two methods to start a business. On the one side, there is still the opportunity to finance your business with money that only comes from yourself, your family, bank lendings and friends. Once the company is generating revenue from cash-flow is money is used to finance operations. This method is called Bootstrapping. Bootstrapping is efficient for getting the start-up off the ground and reduces principal risk for receiving higher validation of your venture when raising outside capital. On the other side, external equity offers different options for funding like angel investors, investment bankers and for our study focused on venture capital firms.

Therefore, Ruhnka & Young (1987) classified the American financing model of VC’s on the development of entrepreneurial start-ups within 5 stages. According to Jeng & Wells (2000), Venture capital firms usually have an investment period of 3-5 years, in order to get a return on their investment. In the optimal case, the cooperation is ended with an initial public offering. In-between the mentioned model, the realization of furthermore funding stage depends on different criteria. Hereby, Ruhnka & Young (1987) came up with different determined characteristics for each stage, which influences the decision-making process for ongoing funding.

1) During the seed stage, founders approach capital by offering securities in the exchange for an equity stake of the company where venture capitalists especially focus on the initial development of the business concept.

2) The following “start-up stage”, is characterized by testing the feasibility of the emerged business plan with market analysis and the development of prototypes.

3) Within the second stage, venture capital firms evaluate further investments based on the market receptive to products and services, to receive consumer behavior and potential economies of scale.

4) Ongoing, the third stage, which is also known as the expansion- or bridge stage, VC's evaluate their start-ups based on orders and sales collected over the last time period. Furthermore, this staged is used to prepare their firms for the exit opportunities within the next stage in order to get an as high return on their investment as possible.

5) In the last instance, the exit stage start-ups need to increase their sales volume in order to get a higher market validation. Therefore, VC’s execute initial public offerings, trade sales or acquisitions.

2. RESEARCH QUESTION

The goal of this research is to analyze the German and American process of funding and investigate differences and similarities between these two ecosystems with relation to the venture capital financing model of Ruhnka & Young (1987). Therefore, particular attention is provided to the cross-country comparison of financing decisions, venture capital structure & types, governmental facilitation, labor rigidities, GDP growth rate and social capital.

This research goal leads to the following research question:

‘*What are the differences and similarities between the American venture capital financing model and the German venture financing of entrepreneurial start-ups’?*

In order to answer the research question, different sub-questions can be formulated:

i. *What determines the venture capital financing model?*

ii. *What are the characteristics of the American venture capital market?*

iii. *What influences American venture capital companies?*

iv. *What are the characteristics of the German venture capital market?*

v. *What influences German venture capital companies?*

3. RESEARCH OBJECTIVE

Germany still lags behind the United States in the size and depth of its financial capital markets (Hauswiesner 2015).

Band on that, this paper aims to detect differences and similarities within the previously presented venture capital financing model to determine crucial characteristics within the different markets. Due to that, reasons are pointed out why Germany is still lagging behind the United States and which steps are being taken to close the gap. A refreshing look into actual entrepreneurial activities and the analysis of primary and secondary data will help to discover how venture capital start-up funding works within both countries and helps to gather more insights and understanding. Unfortunately, a summarization is missing where exactly these two countries differ or equal in making investment decisions, and how the venture capital environment influences them. A comparison of the model given by Ruhnka & Young (1987) with the investigation of German VC case studies will provide potential founders with information to raise awareness in organizational structure and strategic goals of both countries. The determination of different funding steps and related guidance, therefore, can give an indication to German and American entrepreneurs for receiving funding for their own business and helps to align their culture and growth strategy while making use of governmental facilitators. Furthermore, founders will recognize differences and similarities between the two ecosystems which will raise awareness of the other market which can result in attracting foreign capital, or the shift to another market. This paper can also serve as a theoretical and practical tool for governmental entities. Through the precise comparison of both markets, each country can use findings as a tool for embracing their own industry. Especially the German government could derive opportunities for improving legal measures in order to facilitate venture capital growth. Finally, this paper aims to inform the broader public about general venture capital activities in order to provide an international and comparative perspective on the industry.

However, the findings in this thesis are not designed for the purpose of concrete implementation. It rather refers to shine a light on the research gap of analyzing differences in the process of funding globally. The insights collected in this paper strive to provide a better understanding of the other entrepreneurial culture and process of funding and can indicate help in making financial decisions. In the context of academic relevance, this will add further value to the perception of the global funding process and the findings can be used, to make further valuable research on this context.

4. METHODOLOGY

In order to answer the previously presented research question, this paper uses primary and secondary data.

According to Kitchin (2014), primary data is collected by the investigator himself for a specific purpose, while secondary data is already collected by someone else, but being utilized by the investigator for another purpose. The latter can also be described as literature review, and is in this paper mainly collected through Google Scholar, Scopus and Web of science in order to answer the research and sub-questions. Although the following named literature is selected and categorized to answer the related sub-questions, each secondary data contributes to an overall brighter understanding and therefore helped to answer the general research question. Therefore the presented table investigates every literature used in order to answer the sub-questions and come up with results. The most relevant findings were analyzed by different scientific papers to secure validity and reliability. Based on that, out of 100 scientific papers, the following ones were the most important ones for the purpose of this research.

Sub-Question	**Literature**
What determines the venture capital financing model?	Ruhnka & Young (1987)
What are the characteristics of the American venture capital market?	Popov (2013), Kenney(1987), CITYLAB (2012), Castilla (2003), Elango et al. (1995), Ruhnka & Young (1987), Bygrave & Timmons (1992), Florida & Kenney (1988), Sapienza (1992)
What influences American venture capital companies?	Jeng & Wells (2000), Dow Jones (2014), Deards (2003), Goman & Sahlman (1989), Fried & Hirsch (1994), Hurry et al. (1992), Strebulaey & Gornall (2015), Black & Gilson (1998), Sahlman (1990), Nickell (1997), Grilli et al. (2018), Aldrich & Zimmer (1986), Putnam (2001), Adler & Kwon (2002), Burton et al. (2002), Hsu (2004),
What are the characteristics of the German venture capital market?	EY (2018), Deutsche Bundesbank (2000), Tykvova & Walz (2007), Tykvova (2017), Bauer (2013), Fleischhauer (2008)
What influences German venture capital companies?	Bauer (2013), De la Dehsa (2002), EY (2016), Steinbach (2017), Nickell (1997), Jelsh (2000), Grilli (2018), Lexa (2016), Spence & Schmidpeter (2003)

Table 1- Classification of Literature

Additionally to the previously named systematic literature review, the collection of primary data is crucial and will be supported by secondary data. The case study of 3 German venture capital firms provided insights into investment criteria within German characteristics with resulting in differences and similarities to the American venture capital model by Ruhnka and Young (1987). Case studies were chosen consciously to provide real-life entrepreneurial activities and strengthen the previously presented literature. Due to that, the research design in answering the research question is mainly focused on qualitative data.

Interviews of actual matured German venture capital firms and research about recent investments are used to reach information about their personal funding history with related criteria while making funding decisions. These interviews include the same questions to gather an overview about the general funding process of German start-ups. The collection of empirical data implies research which is using empirical evidence in gathering knowledge by means of direct and indirect observation and experience. (Kuhn 1970) These interviews are mainly used to answer sub-question 2.3, 2.4, and 2.5.

(see questions in appendix 12.2)

This induces the collection of descriptive and exploratory data and helps to gather comparative information by sampling different organizations. The realization of these case studies helped to test the American theoretical model within the German business environment and compare it.

5. LITERATURE REVIEW

5.1 What determines the Venture capital financing model?

John C. Ruhnka and John E. Young from the University of Colorado at Denver published a Venture Capital Model of the Development process for new ventures in 1987, which can be still used as a framework for the financing process of American start-ups. The predictable chronological process provides entrepreneurs with various functional and strategic stages and creates an overview of the investment characteristics of American venture capital companies. Especially the collection of open-ended data through questionnaires of the top 100 venture capital firms in the USA, makes these findings valid and reliable. Therefore, the analysis of 72 U.S venture capital firms came up with key features of the development process for new businesses and concluded a model with five sequential stages: 1) “seed stage”; 2)“start-up stage”; 3) “second stage”; 4) “third stage": and 5) "exit stage." Referring to these different stages, characteristics are determined and exhibits similarities and differences from stages of developments while referring to the organizational structure, management style, and operational activities. Since these potential business concepts are concluded through a collection of venture capitalists as investors, the model is not venture specific and provides an overview by taking into account different organizational complexities, business sizes and different degrees of success. By accelerating through the chronological stages of the model, organizational complexity and requirements rise which result in an “inner logic”, according to Ruhnka and Young(1987). This determines the interaction between the different developmental stages and explains the interaction and various benchmarks of investments. The outcome of key functional and strategic steps, which is the central element of the model, therefore, needs to be explained for every stage.

5.1.1 Seed stage

The earliest stage, which terminology was named as the “Seed stage”, by respondents, is mainly used for initial development of the business concept. 57,4% characterized that at that point, only the founder and one or more technicians were building the foundation of the start-up. Within this stage, the model concluded that no product prototype had been developed or tested. Furthermore, the business hasn’t been completed and there are no investments at that point. Venture capitalists mainly aim to verify the feasibility of technological and economic feasibility. The assembly of a management team and development of a business plan is of less importance within the seed stage. However, some businesses still referred to this as a crucial point, which has to be done sooner or later.

Ruhnka and Young concluded that the major risks for VC’s within the seed stage are the overall feasibility of the product, the production costs and overall attraction of further more funds.

5.1.2 Start-up stage

The second stage, which got identified as the “start-up stage”, can be referred to the first round of financing. According to the 72 VC respondents, this stage can be characterized by testing the feasibility of the business plan and market analysis with available prototypes. However, the management team is still incomplete and lacks behind the venture capitalists expectations. When making investments during this stage, investors focus on the readiness to market of the product prototypes, and some initial sales to assure demand. Therefore, it’s crucial to access the manufacturing feasibility, to receive certainty for the ongoing process. Major risks during the start-up stage are referred to the unsatisfactory assessment of the beta-tests. The recognition of lacking prototypes, means products are not ready for the market which freezes funding of venture capital firms. Another characterized risk during the start-up stage is the founder himself, who fail to attract and organize key management. This often is correlated to the competence and personality of the founder. Ben Lerer, the Co-founder, and CEO of Lerer Ventures, supported this by saying: “At the end of the day, we are trying to find great entrepreneurs. It’s much more about the person than the business model.” Furthermore, the attraction of funding and realization of the business plan in relation to future market share is analyzed critically and can be determined as major risks during the second stage. Developed business concepts tend to be overestimated, and accelerate future potential to attract investors and overall product demand.

5.1.3 The second stage

The third stage, which was determined by the respondents as the "second stage", is characterized by the market receptive to the product or service. This can be shortly evaluated by orders and sales after the product is released. Based on that, VC’s access if a marketing push is needed, to achieve higher sales and market acceptance. This always includes the calculation of potential operational costs, which comprises the success of furthermore investments. The need to ramp-up in manufacturing, therefore, would be a good indication for market acceptance and can influence VC's positively in making investment decisions. Another characteristic during the second stage is the expectation of having the full management team in place. Since the product is on the market, the company needs coordination and management which can be achieved through a synergy of the management team. Major goals and benchmarks for venture capital firms at that point are the achievements of market penetration and related sales goals of their invested start-ups. Reaching the break-even point to secure profitability is another goal during the second stage, according to Ruhnka & Young, although the general market penetration is more important in the first view. When start-ups increase their production capacity and reduce their unit costs, VC’s are confident enough to invest additional funding through realizing potential future success. Another benchmark during the second stage is the building of a sales distribution system to smooth the process and minimize customer problems. The major risks indicated by the 72 American venture capital firms are led by the detection of poor management. Founders, who convince in the first place, are not always as competent as expected. This can have various reasons, like the collaboration in a team, or just not enough real business experience. Ruhnka & Young support this view by referring to Chran et al. (1980), and Galbraith (1983), who stated that increased management differentiation and specialization is required as ventures evolve from entrepreneurial management styles of product-development stages to actual “professional” management in the market-driven segment. Furthermore, risks, during the second stage are the insufficient competitiveness of the product within the market. Most often this is related to the stuck in the research & development department, to come up with new product features. Additionally, the surveyed VC's mentioned that too high manufacturing costs are still a major risk which can result in the reduction of additional funding due to inadequate profit margins.

5.1.4 The third stage/expansion stage / Bridge or prepublic stage

For the fourth stage, the venture capital firms vanished their terminology between third stage, expansion stage, and bridge or prepublic stage. This can be explained by the various positions the VC's see themselves in and induces the different speed of growth within the invested start-ups. However, with 23.8% of the respondents determined significant sales and orders as the major venture characteristic during this stage. This can be connected to the need to increase their sales and broaden the market, which was indicated as the second biggest characteristic. Generally, this stage emphasis on expansion, as the terminology already indicated. Thereby, profitability plays a more important role than in the previous stages indicated. At the end of the day, venture capital funds aim for rapid growth by adding value to the company, while benefiting from the capital raised during the initial public offering as the Harvard Business Review states. This rapid growth is according to the 72 surveyed VC's also induced through the attraction of furthermore working capital by other competitors, which is mentioned as another characteristic during the "third stage". The major goals and benchmarks, therefore, are the achievement of higher sales, company growth and increasing market share. Another key goal during this stage is the preparation of a subsequent public stock offering, buy-out or merger to achieve profitability. This strategic focus on approaching an eventually exist opportunity is already designated during the first investment and can be seen as the ultimate goal of the funding lifecycle for venture capital firms. However, some respondents mentioned that this stage is also often used to turnaround failing companies by repositioning their product or achieving success through a merger or strategic alliance.A major risk during the third stage of the American venture capital financing model by Ruhnka & Young (1987), is the incompetence of founders to manage formal systems and financial control systems. Thereby, top management cannot maintain coordination by failing right resource allocation. Other major risks of start-ups during the Bridge and prepublic stage are stuck in market share and sales. With increasing competition within the market segment, start-ups tend to get undercut by unanticipated competitors. This can be correlated to the other indicated risk of technological obsolescence products or services and can result in a closed "window" for initial public stock offerings. Therefore, investors fail to get a return on their investment and need to find other alternatives to be profitable.

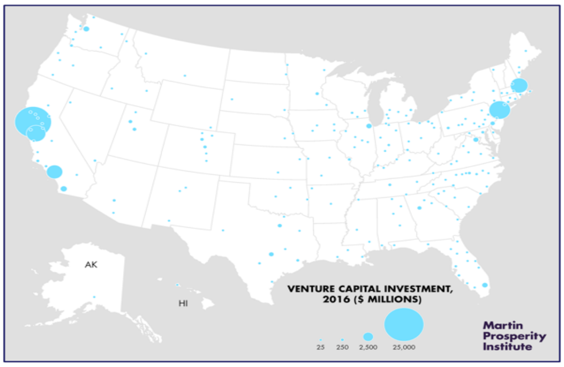
5.1.5 The exit stage

The fifth stage, and therefore the latest stage is named as the "exit stage". Although most respondents described the terminology as the bridge/prepublic, mezzanine or Leveraged buyout/acquisition financing stage, Ruhnka and Young determined the latter stage as an exit. According to the 72 VC's, the start-ups need to increase their sales volume to achieve the breakeven point. Therefore, investors especially try to improve their companies balance sheets for the initial public offering, to receive a higher share price. Since products and services are already established within the market, start-ups focus on additional research and development with the last round of venture financing. The major goals and benchmarks for the latest stage are the realization of a profitable initial public offering, leveraged buyout, merger or acquisition to cash out the investees investments. Since not every venture capital funding lifecycle is going as planned, some respondent indicated that the exit stage is used to salvage or turnaround the company, to recoup potential losses with further funding in achieving higher market share. The major risks during the exit stage are the maintenance of market share due to the emergence of superior competition. Since companies aim for the highest valuation possible, it's crucial for them to have the highest market share possible when realizing it. Another risk associated with that is that the IPO window shuts, and there are no longer established exit vehicles for the company. Tom Farley, the president of the New York Stock Exchange referred, that it is challenging to pinpoint the right time to go public for fast-growing companies. Generally, he mentioned that: "The right time is different for each company".

5.2 What characteristics do American and German venture capital firms have, and what influences them?

5.2.1 Characteristics of the American venture capital market

On average, over 700,000 new firms are founded every year in the United States of America. According to Popov (2014), this explains the USA as a dynamic entrepreneurial economy, with the most developed and sophisticated venture capital industry within the world. Mark Kenney (1987) describes that the importance of venture- capital- financed innovation in the US economy is reflected in the fast-growing high technology areas, where venture-backed firms have risen to prominence.


AK
HI
VENTURE CAPITAL INVESTMENT, 2016 ($ MILLIONS)
25
250
2,500
25,000
Martin Prosperity Institute

The above-shown illustration retrieved from the CITYLAB (2017), shows the scale of venture financing for every state in America. Especially California, with the start-up hotspot Silicon Valley stands out with more than 5 billion invested US Dollars. According to Ballinger et al. (2016), half of the venture capital firms in the US are now located within Silicon Valley and manage billions of dollars every year. This entrepreneurial culture has broadened the focus of the world's attention to San Francisco and helped the American economy to grow. Castilla (2003) describes the inflows of entrepreneurs, venture capitalists, and managers as a crucial reason for the steady innovation within Silicon Valley, which creates a regional network of highly skilled individuals. Other important entrepreneurial venture capital-backed cities are Chicago and Boston.

However, there are different types of venture capital firms. Elango et al. (1995) determined the differences between venture capital firms based on venture stage of interest, amount of assistance provided by the VC, VC firm size and the geographic region they are located. Based on that, Fried (1995) concluded that younger organizations which are less developed are usually early-stage investors and therefore are taking more risky investments. Ventures at this point have more emphasis on unique products and high potential growth markets than VC's who invest at a later stage. Resulting in that, matured VC's are more likely to invest in later-stage start-ups, to be less risky and secure the need for revenue. According to Fried (1995), this induces that VC's investing at later stages of development, place more emphasis on management characteristics of start-ups. These hypotheses support the previously described characteristics of the venture capital financing model by Ruhnka and Young (1987). In relation to that, the funding process of Facebook can be used to identify an example for both venture capital firms. Firstly, Clarium capital invested $500,000 into the firm of Mark Zuckerberg in 2004 as a small and relatively inexperienced venture capital firms. With increasing success and growth potential, Microsoft invested an unheard amount of $240 million into facebook in 2007. Additional VC's like the European Founders Fund or Digital Sky Technologies invested 7 and 8 figure amounts into Facebook to follow the hype and secure potential profits. Furthermore Fried (1995) concluded that "venture capital firms who provide a large amount of staff assistance invest more at early stages of development than VC's who provide lower levels of assistance". Due to that, big players try to reduce business risk through better control mechanism. But also the firm size plays a role. Bygrave and Timmons (1992) found out that large firms tend to make significantly higher investments than small VC's do. Last but not least, Fried (1995) picks up the findings of Florida and Kenney (1988), which indicated that there are differences between VC firms located in different geographic regions. Based on this assumption, three types of venture capital complexes got determined. Firstly, technology-orientated complexes like Silicon Valley, which invest most of their money locally in tech-startups. Secondly, Finance-orientated complexes like New York, which invest most of their money globally, and thirdly hybrid complexes like Boston who combine both of these attributes. These geographical differences can be expanded by the assumptions of Gupta and Sapienza (1992), who found out that early staged investors preferred to invest close to home. Based on that Fried (1995) concluded that finance orientated complexes are more likely late stage investors than VC's from technology- orientated complexes.

5.2.2 What influences American venture capital firms?

According to Jeng & Wells (2000), American venture capital firms are usually organized as limited partnerships. Therefore, venture capitalists are acting as general partners while investors like pension funds, business angels and insurance companies serving as limited partners. This limited partnership is also called "the venture capital fund". The entity is governed by a contract which determines all terms of managing it while including management fees & profits for the general partners. Generally, an American venture capital firm will manage several pools of capital, where each of these funds is structured as a limited partnership. According to Dow Jones' Private Equity Analyst (2015), pension funds provided 20% of venture capital money in the United States of America in 2014. This tremendous number expresses the importance of numerous provided advantages to venture capitalists by quickly raising a large amount of investment money, where private pension funds are indicated as the biggest source. Based on that, limited partners who also only have limited liabilities are more likely to invest in general partners and make use of their expertise. Due to the fact that a partnership itself is not taxed, and only tax liabilities arise from the income and capital gains of partners to their own tax regimes American entities can achieve a tax benefit. Deards (2003) describes this as a flexible tax regime that imposes fewer law requirements on contracts, which ends up in tremendous savings for both sides.

Compared to other countries, American VC's are actively involved in managing their investments. Gorman & Sahlman (1989) and Fried & Hirsch (1994) explicitly explained this by saying: "venture capitalists bring a network of contracts with experienced infrastructure providers like accounting- and law firms while supplying potential professional managers. Additionally, VC's themselves bring a reputation that facilitates growth through their detailed analysis of management, technology, products and the viability of their business plan. Although U.S VC's take fewer investments than for example Japanese venture capital firms, their equity stakes are way higher, which is presented by Hurry et al. (1992). This supports the previously explained characteristic and gives them a greater incentive to manage and monitor. Strebulaev and Gornall mentioned in the Stanford business insights (2015), that over the past 20 years, these Venture capital firms have been a prime driver of both economic growth and private sector employment. Nowadays, entrepreneurs prefer VC financing due to their network and managing capabilities as the best way to grow their company.

However, the ultimate goal and therefore the most important venture capital funding determinant across countries is according to Columbo et al. (2016) the IPO. Since capital investments usually least 3-5 years, a viable exit mechanism is extremely important to the development of the venture capital industry. Black and Gilson (1998) therefore came up with major reasons why an exit is essential for entrepreneurs." Firstly, it provides a financial incentive for equity- compensated managers to extend their effort and secondly, it gives the managers a call option on control of the firm, since venture capitalists relinquish control at the time of the IPO. " Initial public offerings in the United States are mainly issued on The New York Stock Exchange and NASDAQ. According to the annual report of EY (2016), these markets issued 174 IPO's with a total value of $39,5 billion only in 2017.

According to Sahlmann, (1990) another obstacle to the venture capital growth of a start-up are labor market rigidities. The international market rigidities are measured by two determinants according to Jeng & Welsh (2000): 1) The rigidity in the market of skilled labor and 2) the rigidity in the overall labor market. Usually, labor market legislations are typically put in place to protect employees from arbitrary, unfair or discriminatory actions on the part of employers. This supports long-term employment but limits the flexibility in changing professions. Nickell (1997) characterizes the American system as a highly flexible and open system. Although employment protection is considered low compared to European states, this facilitates better profession switching opportunities for employees. Jeng & Welsh (2000), conclude that higher labour market rigidities result in less demand for venture capital funds. These higher levels of funds result in great product market competition. Due to that, American venture capital firms are provided with more investment opportunities and higher innovations of local start-ups.

Another provided variable by Jeng & Welsh's (2000) framework in determining factors affecting cross-country venture capital firms is the GDP growth rate. Since macroeconomic fluctuations increase the start-up activity in general, which leads to an increasing number of start-ups, the two researchers expect a greater number of needed venture funds. However, the annual growth rate of America is according to the OCED comparable normal (2,3%). This can be interpreted by concluding the American economy as an already well-developed ecosystem, with fewer opportunities for growth compared to other countries. However, looking at other data published by the OCED which summarizes the venture capital investments as a percentage of GDP, America is beside Israel the leading country with approximately 0,33%. Germany, for instance, can only account for 0,05% of their capital investments as a percentage of their GDP. This determines the significance of the American venture capital market within the world economy compared to the ones in Europe.

Another main driver of the successful venture capital industry within America is the available social capital (Grilli et al. 2018). Social capital mitigates information asymmetries by facilitating social interactions and trust. The American culture is known, as an entrepreneurial culture with greater access to novel and original innovation through innovative thinking, networks and strong ties (Aldrich & Zimmer 1986). According to (Putnam 2001; Adler & Kwon 2002), this facilitates information sharing, decrease transaction costs and overall boosts venture capital activity. Burton et al. 2002 and Hsu 2004 hereby especially refer to the social capital of the entrepreneurs themselves by mentioning that the reputation-building and recognition of opportunities determines an increasing investment activity.

Summarizing, the American venture capital firms are mainly independent and corporate institutions which are financed by pension- and insurance funds, strong individuals, and other enterprises. Through social capital and networking, these companies are able to invest at higher scales and provide great managerial advice at earlier stages with the ultimate goal to pursue an initial public offering. Generally, this is embraced through the strong presence of the Silicon Valley in the world's economy and flexible labor standards in America.

5.2.3 Characteristics of the German venture capital market

German venture capital investors invested more than $7,9 billion in new funds for start-ups in 2017, according to EY (2018).

Besides North- America, Europe is the 2nd biggest venture capital market within the world. Especially Germany and the United Kingdom are particularly important because according to the (BVK 2013), they account together for over half of the VC investments on the European continent. With Berlin as the "Silicon Alley", Germany is provided by top-class engineering and business universities. According to the OCED, the German capital is the largest EU economy in terms of GDP and population. With venture capital firms like Rocket Internet, Point 9 or Earlybird, Berlin facilitates a perfect infrastructure for start-ups and serves ambiguous entrepreneurs with the necessary funding. According to Tykvova & Walz (2007), the German venture capital market can be characterized as a young and rapidly growing market coupled with a strong public sector which offers different types of venture capitalists with greatly contrasting structures, objectives, and tracks records.

Hereby, Tykyova (2004) divided four types of German venture capital firms into two subgroups. Firstly, public VC’s which are mainly subsidies of commercial financial institutions such as the federal state banks (Landesbanken) or municipal saving banks (Sparkassen) (Bauer 2013), where public authorities have a large impact. But also the government itself facilitates venture capital activity through the state-owned Development Loan Co-operation (Kreditanstalt für Wiederaufbau). Furthermore, Tykvova (2004) categorized bank-dependent VC’s, which are only subsidiaries of commercial banks to the first subgroup. These dominant credit institutions are especially facilitated through the German bank-based financial system and according to Tykova (2004) take lower equity stakes, while taking their companies public more rapidly. Usually, these VC's tend to invest in later stages and achieve a comparative advantage by providing money whereas, experience and established networks. Bank-dependent and public VC's typically are acting as bridge investors shortly before the IPO to get a quick return on their investment. Hereby, especially managerial support is missing, compared to the other venture capital firms.

Secondly, Tykyova (2004) determined independent and corporate VC’s as the second subgroup within the German venture capital market. While corporate venture capital companies (GVC) are subsidies of major industrial companies established in order to achieve strategic additional value besides financial success, independent VC's are usually found by investors in order to generate profit and collectively minimize risks (Bauer 2013). An example of a German corporate VC can be Next47, a Munich owned company by Siemens AG. According to Tykyova (2004), these venture capital firms usually take larger equity stakes and provide additional value through managerial assistance and create a long-term relationship with their portfolio companies. Usually independent and corporate VC's in Germany invest at all financing stages and try to syndicate like venture capital firms in America.

Fleischhauer (2008) determines that pension funds generally have no involvement in the founding process of German venture capital firms. This seems to be surprising since the American market gathers most of their resources from pension funds. Instead, public banks, high-net-worth individuals, and family offices play a more significant role in the German VC market, according to Bauer (2013).

5.2.4 What influences German venture capital firms?

The most common legal structure for VC’s in Germany is the KG (Kapitalgesellschaft). This includes at least one general partner whose liability is unlimited, which is usually a private limited company (GmbH) (Bauer 2013). A KG can be compared with the previously described American limited partnership model and is used for tax reasons. Since VC investment companies are considered as fund-managing/ non-trading, they do not obtain commercial income and are not subject to income tax. Furthermore, 40% of the carried interest is tax-free for German venture capital firms. This was introduced in 2008 by the MoRaKG in order to provide a more competitive German venture capital industry and facilitate economic growth.

As previously mentioned, bank-dependent and public VC’s are the dominant players within the German capital market. De la Dehesa (2000) describes this as a reason for the slow development of capital markets within Europe as another limitation for ambiguous start-ups. Missing financing alternatives and fewer opportunities for expansion depriving companies to grow faster and increases the time to receive early and later stage funding. Therefore, the comparatively small proportion of independent and corporate venture capital firms with especially active management participation induces the small annual growth of VC investments in Germany. Although increasing entrepreneurial spirit can be recognized in German social capital, expertise and networking are not as widespread as in North-America yet.

While venture capital firms in America usually achieve a return on their investment by initial public offerings, corporate trade sales are by far the most important exit channel in Germany according to EY(2016). These business to business acquirements are mainly pursued by corporate investors at an early stage and are supported by a financially strong private equity partner. EY (2016) explains this by the still insufficient number of later-stage venture capitals funds within the German market.

Although IPO's are also the preferred form of exit for German venture capital firms, only 14 enterprises with a volume of $3,1 billion went public in 2017 (Steinbach 2017). Martin Steinbach, the IPO directive of EY, however, indicated an IPO growth forecast within the next years due to low market volatility and interest rates. Therefore, it's crucial to facilitate more later-staged VC investments through German funds. Sebastian Pollok, the founder of Amorelie summarizes this by saying: "There exists a gap for growth financing in the German market. Companies looking for growth financing and exit opportunities mostly rely on foreign, especially American investors (EY 2016)." Since an IPO involves greater risk due to the capital markets and are normally more costly, German VC's tend to secure returns with less risk through trade sales and secondarybuyouts.

The latter is according to Bauer (2013), another more frequently used exit form in Germany. VC's sell their investments to a different financial sponsor or private equity firm due to different reasons. Secondary buyouts are most often realized at early stages, while the purchaser recognizes furthermore growth potential. Although they are normally lower in scale than IPO's, this method is according to Bauer (2013) less dependent on the climate of capital and financial markets.

According to Nickell (1997), Germany is noted as one of the most inflexible labor markets in Europe. This is caused by a high degree of integrated labor regulations to protect employees from unemployment. Although this facilitates long-term employment, wage pressure rises and hence induces faster inflation. Moreover, employees are unlikely to switch professions easily and the rate of self-employment is comparable low to North-America. Since unemployment is according to De La Dehesa (2002), more negatively viewed in Germany, employees try to stay in their "comfort zone" without risking a major setback of reputation and social status within society.

As referred to in the previous part, according to Jelsh (2000), the annual GDP growth rate is another determinant of venture capital facilitation. Based on the data provided by the Worldbank. Germany achieved a rate of 1,9% in 2016. This is comparable smaller than the annual growth rate in America. However, as indicated the mean VC investments as a proportion of the GDP can be used more significantly. According to Grilli (2018), Germany accumulated a percentage of 0,186% between 2011 and 2015. This number, unfortunately, decreased through the financial crisis of 2008. However, De la Dehesa (2000), describes the increasing awareness of venture capital in Germany as a reason of the emerged "Neuer Markt" in 2000. Due to that, the development of stock exchanges for high growth companies were given, which reflects the importance of existing exit opportunities for venture capitalists.

Although the European powerhouses recognized the importance of social capital within entrepreneurship, countries like Germany fail to provide the right attitude towards venture capital investments. Carsten Lexa referred in his published article (2016) on medium.com to a society of "fear towards failure". Although German venture capitalists embrace higher scales in their investments and start networking similar to the American model, the fundamental of providing enough start-ups is failing. Furthermore, Spence & Schmidpeter (2003) especially point out the missing engagement of small- and medium-sized enterprises within Germany in order to grow together. Firms rather pursue their goals by staying independent, in order to keep risks and responsibilities low. Social capital in Germany according to the latterly named researchers focuses on keeping confidentiality preserved, instead of collaborating together.

Although consumer behavior is not directly correlated with social capital, Bodo Braunmuehl the media head of Delivery Hero, linked the American attitude to venture capital activities in the United States during the collection of primary data. "The higher income and consumer behavior in North-America embraces radical hype of new products and therefore facilitates the speedy growth of start-ups. Hereby, American venture capital firms are more likely to get a return on their investment in a shorter time period than German VC's do".

Concluding, the German venture capital firms can be divided into four types, where public- and bank-dependent play the most important role. These VC's are mainly financed by high-net-worth individuals, public banks, and family offices, while pension funds have no involvement. Due to the high given labor rigidities and low social capital and entrepreneurial spirit, the development of independent institutions is missing. Therefore, German venture capital companies tend to invest at later stages to minimize risks and secure profits. According to that, these firms mainly pursue trade sales, secondary buyouts and management buybacks for exiting their portfolio companies. However, the growth of Berlin as the second biggest venture capital hotspot and governmental facilitation of regulations embraced significant development in the German venture capital market in recent years.

6. DATA COLLECTION(CASE STUDIES)

6.1 Bank-dependent venture capital firm

6.1.1 Berliner Volksbank Ventures

The Berliner Volksbank Ventures was founded in September 2015 from the Volksbank eG, one of the largest cooperative banks in Germany and is investing in innovative technology start-ups in the areas of financial services, real estate, and SME software. As a result, the German subsidy is positioning itself as a financial investor in strategically relevant areas and is supporting its portfolio with many years of industry experience and a strong network. During an interview with the media department of the Berlin fund, they indicated investments primary at the second and third stage of Ruhnka & Young's financing model. Therefore, a finished management team with a professional coordination, competent CEO and a finished product are the most important criteria related to their first investment within a matured start-up. The major goals and benchmarks during the second stage are related to product optimization with investments in research and development and the reach of further customers. However, as risks, the media department indicated the lack of an efficient distribution chain although the product itself seems to be accepted by the market. This reinforces the main investment criteria of coordination within the management team. Climbing up the stage according to the financing model, the most important points for further investments are the achievement of greater sales. During the also known “expansion”, or “prepublic stage”, the Berlin fund measures their cooperatives by sales and potential before they can exit within the next stage. Hereby, they indicated the reach of further customers and preparation of bureaucratic papers as their main goals, in order to achieve a high market validation. Risks during the third stage are related to agency conflicts related to exit opportunities and the greater challenge of the following financing. As indicated during the interview, the Berliner Volksbank Venture doesn't have a favored exit method. Trade sales, acquisitions or IPO's are all supported by the bank-dependent VC. Hereby, most important is the highest possible return on their investment, since they are using 100% private equity. This creates flexibility and provides the Berlin fund with more leeway in decision making.

Additionally, the media department was asked about the major reasons why the German venture capital market is still lagging behind the United States. Therefore, the VC indicated that the lack of experience and availability of resources is still not given at the same amount in Germany."America has a great history of pioneering within the venture capital industry with the development of great enterprises, which can act as a role model to the German market". Additionally, the media indicated the facilitation of governmental regulations as another difference. Especially the investment of insurance funds into American venture capital companies serves as a major source of funding and embraces the development of start-ups even more. However, as the most important difference, the Volksbank venture indicated the lack of social capital and entrepreneurial spirit within Germany. "America's culture tends to be more risk-taking and therefore facilitate more self-employment", was mentioned during the interview, which reinforces the results summarized in the literature review. Venture capital is still not popular and admired by the German society, which induces the lack of needed VC's. Nevertheless, the Berlin fund indicated that Germany and especially their capital made a great step in the right direction. The growing entrepreneurial spirit facilitates more and more start-ups and nowadays creates a network of knowledgeable venture capital firms.

6.2 Corporate venture capital firm

6.2.1 DB1 Ventures

DB1 Ventures is a corporate capital subsidy of the Deutsche Börse Group and was founded 2016 in Frankfurt, Germany. According to their website, the Frankfurter fund acts as a strategic partner for young and growth orientated enterprises, while assuring synergy and an operational fit. DB1's goal is to generate attractive investments returns while gathering valuable knowledge of the Group's growth plans. Hereby, the corporate venture capital firm invests at all stages with a focus on the fintech sector and most often act as a lead or co-investor while taking minority or controlling stakes within their portfolio companies. In clarifying differences between the American and German venture capital companies, DB1’s vice president Aditya Goel, who already worked in both countries, took some time in order to answer questions and gave insights about both markets. Therefore, he mentioned that investments at the seed stage, according to Runka & Young’s (1987) financing model the Frankfurter fund is mainly focusing on everything related to the start-up. The founder itself expresses a crucial role while making first investments. “A competent personality and appearance with the right mentality are the keys to express an idea or business plan”. Major goals are related to the development of an explicit business plan with great know-how and market expertise. Although, DB1 already minimizes the risk of missing "vision", Goel indicated that founders are still failing to maintain dedication during the following stages. During the start-up and second stage, the vice president referred that investment criteria, goals and risks are mainly the same. Potential portfolio companies need to already achieve convincing revenue (IRR) while facilitating a strategic partnership. "These numbers already express market acceptance and gives an indication about the buying behavior of customers". As related goals during both stages, Goel mentioned the achievements of further sales through product optimization and different emerging locations. Especially acquisitions are a useful tool to let the company grow while securing flexibility in governmental measures. Risk related to the start-up and secondary stage are hereby the struggle of generating higher sales, although the vice president of DB1 indicated that it is a complex matrix, where different factors come into play. Making investments at later stages like the “Bridge- or Prepublic stage”, are described as generally more complex by Goel. Criteria are most often referred to the proportion of different investors and advisory board. “When there cannot be furthermore value be added, DB1 tend to most often deny financing”. However, enterprises which are shortly before their initial public offering, are still attractive since quick returns can be realized through expertise within the bureaucratic measures of the German stock market. Therefore, major goals and benchmarks are the preparation and evaluation of exit opportunities. Risks related to the Bridge stage, are market undervaluation due to different reasons. However, Goel also indicated that the precious investment of other institutional and private investors can minimize their returns through differences in contribution and the distribution of stakes. Within the Exit stage, the Frankfurter fund reasonable tries to realize the highest possible return on their investment. Adtiya Goel hereby mentioned that a specific exit method is not important for the corporate venture fund. Since the subsidy receives their funding only from the Deutsche Börse Group and own generated profits, high margins are of crucial importance. Especially legal facilitation of trade sales in Germany compared to IPO's are recognized by DB1 and expresses a great alternative for the German fund. However, Goel mentioned that going public is favored by the Frankfurter fund and generally results in the biggest returns on their investments.

As the major differences between the German and American venture capital market, the vice president of DB1 referred to the lack of social capital and entrepreneurial spirit. "People in Germany have capital, but are afraid to invest". Although the growth of the German venture capital market cannot be denied and people are recognizing the importance of VC's, their entrepreneurs are trying to stay independent and threat their start-ups as their own baby. However, Goel mentioned that Germany is on a great track, with better participation of corporate venture capital companies which finally opens up new opportunities. “Industrial entities start to open up subsidies or departments in order to gain additional revenue and provide knowledge to their portfolio companies like it is already common in the United States".

6.3 Independent venture capital firm

6.3.1 Btov Partners

Btov Partners is one of the largest and oldest venture capital firms in Europe, founded in 2000. With headquarters in St. Gallen, Berlin, Munich and Luxemburg, they act as a European pioneer and facilitate investment solutions for private, corporate and institutional investors, according to their website. Btov operates in three different business units. Firstly, they provide a private investor network for business angels which enables investment opportunities and shared risk. Secondly, the venture partner is acting as a management partner fund for corporations, high net worth individuals and family offices to set up tailor-made venture capital funds according to their preferences regarding geography, industry and maturity stage. And thirdly, Btov is realizing own investments, while focusing on digital- and industrial technology start-ups, where initial investments from 0.25-3.5€ million are made.

Dominik Wenzel, an investment analyst at Btov, took time to answer some questions regarding the differences between the American and German venture capital market. Making initial investments for potential portfolio companies hereby are mainly decided by the attitude of the founder and team. This supports the findings already made within the previously presented interviews. “Founders and investors need to achieve a synergy, where both can profit from each other”, was mentioned by Wenzel to strengthen the importance of competent founders. Furthermore, he mentioned that the development of a business plan is the major goal during the seed stage developed by Ruhnka & Young (1987). Risks, therefore are related to the missing interaction between the management team and investors in order to make the product market competitive. Climbing up within the model, the start-up stage is all about the product. Investing during that stage is according to the investment analyst characterized by the finished product, the market, and first sales. Therefore, product optimization and market research are the major goals according to Wenzel. However, since research & development is not always going as planned, the failing of optimization within the product and team is indicated as a major risk during the start-up stage. Moving on, investment decisions within the second stage of potential portfolio companies is mainly evaluated by sales tracking. Although recent numbers are meaningful, Wenzel especially refers to the importance of sales potential. Viewing the broader picture often indicates where Btov could introduce their expertise, and help the enterprise to achieve further sales. “Btov recognizes opportunities and improvements, which most often cannot even be recognized by founders and hereby optimize their operations”, described their investment analyst. Goals and benchmark, therefore, are focused on operational enhancement within every department in order to achieve higher sales. Risks related to the second stage are indicated as missing customer acceptance and openness to adjustments within the management team. Besides already mentioned numbers, patents and other investors are the main criteria during the third stage. Since the already made investments of other financial institutions or private individuals determine the equity stakes within the company, Btov evaluates every aspect, if initial investments are even worth anymore. Intellectual property with related copyrights, trade secrets or publicity rights, is important to take into consideration. According to Wenzel, their main goal is to embraces Btov and its portfolio companies in the best possible position in order to achieve a high market valuation with great exit opportunities. Due to that, major risks are related to agency conflicts within the advisory- and management board on different corporative control and exit mechanism. However, the investment analyst indicated that Btov already has gained great experience and intuition for these problems, which always helped to find a joint solution. Making initial investments at the Exit stage are usually not included in their VC strategy. Nevertheless, financing an enterprise already in previous stages, Btov partners try to evaluate further investments by their market valuation and existing exit opportunities. Although, Wenzel indicated that their independent venture capital firm favor investment at early stages with an investment period of 3-5 years, the reality often range from 8-16 years. Hereby, the preparation of balance sheets and bureaucratic papers is the major goal to finalize an investment with the best possible return on their investment. Risks related to that is the hazard of falling back into previous stages with making necessary adjustments in products and operational affairs, which can explain the extended investment period indicated by Wenzel. "Exiting a portfolio company, always need to happen at the right moment in order to achieve the best results”, was mentioned during the interview in order to address that things do not always go as planned. Generally, Btov doesn't favor a special exit opportunity. However, since IPO’s have a higher legal complexity in Germany, trade sales and management buybacks are great alternatives for the independent VC.

Taking a closer look at the differences and similarities between the American and German venture capital market, Wenzel mentioned a great development within the recent years. Nowadays, investor subsidies are given to business angels and the introduction of a legal partnership with tax benefits facilitates growth within the German VC industry. Since Btov’s main sources of funding come from other VC's and especially family offices and private investors, this, in turn, enlarges the available funds for them. Generally, Wenzel indicated that the German entrepreneurial spirit improved in the recent years. Although courage is not as widespread as in America, entrepreneurs start to realize opportunities facilitated by the government. Hereby, Wenzel mentioned that additional incentives for institutional investors could embrace further VC activity and make founding to a daily business in Germany. The reasons why the European hub is lagging behind the US are according to the investment analyst very broad. First of all, the American VC history already succeeded over the last 60 years. Therefore, the development of expertise and governmental support with fiscal benefits created a very attractive market for start-ups. Germany’s VC history instead was early struck back by the burst of the internet bubble and financial crisis in 2007. Therefore, the development of an attractive market, paired with the passive entrepreneurial culture resulted in stagnation. Furthermore, American VC’s are enjoying less capital gain taxes than in Germany and better access to funds. Hereby, Wenzel especially pointed out the availability of institutional-, insurance-, and pension funds. German individuals are restricted to invest capital, since their pension funds first need to cover the high expenditures, while insurance funds are extremely expensive in Germany. Additionally, the investment analysts indicated that American exit mechanisms are much more attractive. While the US market generally provides more exit opportunities than the German, strict legal measures even make it harder to end an investment period. This again induces the missing social capital within Germany. Instead of facilitating growth through collaboration within the industry, the German culture constrains their ability to expand.

7. RESULTS

Presented in the table 11.1 (see appendix)

7.1 Venture capital financing model

7.1.1 Differences and similarities

By comparing the American venture capital financing model by Ruhnka & Young (1987), to the German process of funding, many interesting findings can be identified. The case study of 3 different German VC’s and one start-up serves as the source of information. Generally, it can be concluded that with every step upwards the model, similarities between the two countries start to increase. Evaluating both characteristics against each other also indicates that the American venture capital industry seems to invest earlier into ideas to secure potential breakthrough innovation, while the German industries require a finished product or at least a prototype. Therefore, the product to market implementation is earlier realized in Germany than the United States.

Making initial investments in America are mainly evaluated by the feasibility of the technological and economic feasibility with the goal to develop a business plan. Although German VC's indicated the same goal during the seed-stage, their main criteria are the founder himself and a great management team behind him. This induces the previously described missing in German social capital and entrepreneurial spirit within the literature review. Indicated risks are therefore related to missing vision and interaction between the management team. This describes that German investors are explicitly searching for ambiguous German entrepreneurs with a competent attitude, rather than the next great idea, which can be identified as a major finding. The American venture capital industry instead is relating risks to the product feasibility and upcoming production costs. Hereby, moving up the financing model of Ruhnka & Young (1987), US VC's evaluate decisions on the market readiness, management team, and initial sales, while the European hub is already focussing on market acceptance and the finished product. Goals, are already related to the achievement of high sales and further product optimization, while the Americans still focus on feasibility and efficient manufacturing. Therefore, Ruhnka & Young determine unsatisfactory beta tests as the major risk within the American industry, while German investors are already worried about generating higher sales. According to the differences within the first two stages, the American venture capital firms seem to move slower within the financing model, while securing the right point of market readiness instead of the fastest. This can have several reasons, but could also indicate that the American model would need an additional stage. Based on that, the second stage already shows similarities between both countries. While the USA venture market is starting to make investments based on sales and profitability, the data collection of German VC’s implies mainly the same. Also, the goals and benchmarks for both are related to market penetration and enhancement of operational factors. Risk factors instead differ during the second stage. US Venture capital respondents especially indicated the risk of poor management and incompetent founders as a major problem. However, this risk was already minimized in the German model through right screening within the seed-stage. Nevertheless, this doesn't imply that the first impression is always correct in Germany. Instead, it further supports the finding that Americans focus on the next breakthrough innovation while the Germans try to identify rare competent founders. The third stage, also known as “Pre-Public stage”, also induces great similarities. Investment decisions are made by the further achievement of sales and also sales potential, as referred by DB1’s vice president Aditya Goel for both countries. Goals and benchmarks are also matching in the reach of further customers and preparing bureaucratic papers and balance sheets for potential exit opportunities in order to receive a high market valuation. However, risks again differ between both industries. While the US. VC’s still indicated the incompetence of founders as a major risk. Especially the management of formal systems and financial control induces lack in top management with failing resource allocation. The data collection of German venture capital firms instead shows the emergence of agency problems between investors and management due to exit opportunities. However, within the exit stage, the United States and Germany are completely similar. The ultimate goal of a venture capital firm is to achieve the highest possible return on investment, which was identified as the major goal for both sides.

7.2 Venture capital market characteristics and influences

7.2.1 *Similarities*

Although the venture capital markets within America and Germany cannot be compared in size and efficiency, there are still several similarities that can be noticed. First of all, both countries have an entrepreneurial hotspot that creates a regional network of highly skilled individuals, networks, and investment opportunities. The Silicon Valley located in San Francisco CA is nowadays the capital for venture capital financing and emergence of start-ups within the world economy. However, in the recent years, Berlin achieved a tremendous financing growth driven by few young ventures which represent Germany's attracting funding environment. Early-stage financing facilitated by Venture capital funds, family offices, and business angels sustains liquidity and helps start-up capital's appeal to grow. No wonder that German firms like Delivery Hero achieve total funding valued at over 1 billion USD and experts already see in Berlin, Europe's "Silicon Allee”. However, the dimensions of funds raised in America cannot be compared to any other. Only in 2017 North-America raised 272 billion USD from the global private equity funds of 453 billion USD (Statista 2018) and determines the United States as the “Mecca” of start-ups. Nevertheless, both cities were crucial for the development of venture capital within the last decade and essentially helped both markets to become what they are now. the world’s leading venture capital hubs.

Additionally, both governments facilitate further venture capital investments through different regulations. Especially the introduction of the so-called "Kapitalgesellschaft”, which is similar to the limited partnership in America embraced furthermore venture capital activity. Tax benefits are generally a major facilitator within both countries. While the capital gain tax is comparatively lower in America, the implementation of the MoRaKG enabled 40% of tax-free carried interest for German venture capital firms. Generally, the governments in both countries supported the growth within the world venture capital industry and embraced further financing opportunities for entrepreneurial start-ups.

Although not all countries include managerial support in their investments, America and Germany gathered explicit knowledge and experience in that. As already explained by Fried & Hirsch (1995), venture capitalists provide a network of contacts with an effective infrastructure while supplying potential professional managers. Therefore, these VC’s are more likely to invest higher scales and attain equity stakes, while providing management and maintain control through that.

7.2.2 *Differences*

As already indicated during the literature review and collection of primary data, there are several crucial differences within the German and American venture capital market. Based on that, two major findings can be determined, which facilitated the emergence of other differences.

1. *The economic- and venture capital history*
2. *The differences in social capital and entrepreneurial spirit*

While the American economy, with a capital market based system already experienced venture capital investments over the last 60 years, the German bank-based system started to expand with the beginning of the new century. Therefore, the US was able to gather tremendous expertise and governmental support within the industry of venture capital, while the German market was stagnating already in early stages through the crack of the internet bubble and financial crisis. These setbacks created a slow development and general curious perception of VC’s within Europe. Paired with the lack of social capital and entrepreneurial spirit, strict legal measures emerged especially within the area of exit opportunities. Dominik Wenzel, an investment analyst at Btov Ventures hereby describes the exit mechanism in America as easier and more attractive. While American VC’s prefer to end their portfolio investment through an IPO, due to the higher possible return on investment and bureaucratic facilitation, German funds prefer trade sales, secondary buybouts and management buybacks due to less strict legal measures. This is also mainly determined by the types of venture capital companies within each country. America's industry is characterized by strong independent and corporate VC's, which are able to invest higher scales at all stages. Germany's financial bank system instead emerged a high proportion of public and bank-dependent venture capital companies, who tend to invest mainly in later stages to minimize risks and secure profits. This again induces the lack of entrepreneurial spirit. German entrepreneurs are not willing to take a risk, while there still is an option to minimize it. Also the investment period of venture capital firms is usually longer in Germany. Although both markets aim for 3-5 years, the realization indicated by Wenzel often range from 8-16 years within Germany. This is also influenced by the lack of funding for venture capital firms. Since German VC's are mainly financed by public banks, high-net-worth individuals and family offices, American venture capital firms gather funding especially from pension funds, insurance companies, and private equity. Since insurance funds are extremely expensive, and pension funds first need to cover the high expenditures, a huge source of revenue is missing. Additionally, American corporate VC's are able to attain tremendous scales of funding as a subsidy of multinationals. The introduction of an own venture capital department or own entity is already normal within the US, in order to support potential breakthrough innovation and finally implement them in their own corporate structure to achieve further revenue for own operations. Generally, the higher income and consumer behavior in America can be defined as another difference emerged through the contrast within social capital and economic history. US consumers tend to facilitate a higher radical hype for products with an innovation improvement and let start-ups grow rapidly. Therefore, venture capital activity is more needed to maintain funding of portfolio companies with managerial advice in a quicker time period. This can again explain the quick development of the venture capital market within America, while social capital in identifying these opportunities is crucial. Adity Goel, the vice president of DB1 ventures mentions that entrepreneurs in Germany have the capital to invest, but are afraid to do it”, which reinforces the information gathered through the literature review and other primary data. Overall, the willingness to take risks embraced great venture capital activity within America, led the industry to grow and facilitated the founding of more and more start-ups. Additionally, this was supported by the flexible labor market regulations within the US. According to Nickell (1997), the American system is characterized as a highly flexible and open system, which facilitates self-employment and better opportunities for switching professions, while the German system is characterized as inflexible. Employees rather stay in their comfort zone than risking major setbacks of reputation and social status within society (De la Dehesa 2000). Hereby, Wenzel the investment analyst of Btov ventures mentioned that founding 3-4 start-ups before realizing success is normal for American entrepreneurs, while Germans are already having courage problems to found their own first business.

Summarizing, all these described differences can be described as a chain reaction. The social capital and entrepreneurial spirit within the history of the American economy resulted in the described points and emerged the lack of venture capital activity within other countries like Germany. The United States has by far positioned itself as the major venture capital market within the world, and can according to the media department of the Berliner Volksbank Venture act as a role model for the German industry.

8. CONCLUSION

The purpose of this paper was to determine the differences and similarities within the American financing model and German process of funding. Through the process of literature review and collection of case studies, several interesting findings can be identified.

According to the financing model by Ruhnka & Young (1997), with each additional step upwards, investment criteria, goals and risks become more and more equal. While American venture capital firms are focussing on breakthrough innovation during their initial investment, German VC's try to identify competent founders with an entrepreneurial spirit. This already indicates another major finding presented in this paper. Germany is lacking in social capital and entrepreneurial spirit. Investors are searching for personality and attitude in the seed stage, to minimize managerial problems within further stages. Additionally, it can be concluded that German VC's are aiming for an earlier product to market implementation than American, in order to measure market acceptance. Since US investors indicated beta-tests and market analysis before getting their product on the market, it can be concluded that the American model would need an additional stage. This could be for example called “Pre-sale stage”. However, within further financing stages, both countries indicated that investment criteria and goals are mainly related to expansion and achievement of sales in order to gain a high market valuation before exiting their portfolio companies. While American companies prefer an IPO, due to the high return on investment, German VC's tend to exit through trade sales and management buybacks. In the end, both sides indicated that the ultimate goal is the get the highest possible return on their investment.

Although the financing model already indicated several differences in the process of funding within America and Germany, the venture capital markets still have common characteristics. First of all, both markets grew within the last decade through their entrepreneurial hubs. While the Silicon Valley presents the strongest VC activity in the world, with great social capital and high-technology start-ups, Berlin emerged to the major hotspot within Europe. These places facilitated entrepreneurial growth around the world and sustain liquidity for potential founders. Additionally, both governments were involved in the development of an effective venture capital industry through provided tax benefits and different funding opportunities. Although the types of venture capital firms differ between both countries, managerial support in their portfolio companies can be indicated as another similarity.

However, the differences between both venture capital markets can be described as a chain reaction of the two major findings. The differences in the economic history and entrepreneurial spirit had a crucial importance on the development of each market within the last decades. While America faced a flawless history with early success, Germany already realized major setbacks in the beginning. Paired with the lack of entrepreneurial spirit and social capital, the member of the European Union recognized a comparable small development of venture capital. This influenced the availability of funds, facilitation of exit opportunities and constraints on different governmental regulations like labor rigidities.

Nevertheless, the development of venture capital especially in America and Germany within recent years indicated a great forecast for the industry. Although there are major differences between the financing model and both markets, each country developed an own efficient identity with different characteristics. The presented similarities show that Germany is learning by watching the American market operate, and tries to integrate different criteria in their own system to facilitate venture capital growth.

9. LIMITATIONS AND FURTHER RESEARCH

Common to other papers, this research has limitations that provide additional investigation for further research. Mainly these limitations are referred to the collection of primary and secondary data.

Firstly, this paper contains case studies of three different types of German venture capital firms. Although these interviews provide real-life entrepreneurial activities and strengthen the presented literature, the sample size is too small to provide significant validity and reliability of similarities and differences between both markets. Therefore, this paper can be used for further research through the collection of quantitative primary data with a bigger sample size to test the concluded findings. Limitations are also given to the different financial systems. Since America is a capital-market country with a lot of independent venture capital firms, Germany instead is characterized by bank-dependent and public VC's. According to that, it's hard to compare their investment criteria, goals and risk by heart. Moreover, variables presented in the paper could be analyzed on the correlation of each. Since major differences are concluded as a chain reaction, their interaction needs to be researched to provide validity and reliability. Furthermore, the used determined characteristics within the venture capital financing model by Ruhnka & Young (1987) are hard to relate to the present nowadays. Firstly, the presented model does not necessarily portray the development process of venture capital firms. Companies can grow rapidly and even skip stages within the presented model, but can also fall back into previous stages, go bankrupt or bought up by other institutions. Secondly, the determined stages in the used model by Ruhnka & Young (1987), differ for every company in time. Seed- and Start-up stages can last from 6 months to 8 years before the product is finally market ready. Although, a recent similar model wasn't given and the literature review matched with the presented characteristics, the development of a new recent model could lead to further clarity within the American venture capital industry. Otherwise, the investigation of different literature could be used to test the findings concluded in this paper. Generally, this Paper contains several references which seem to be outdated because of the year they were published. However, while working on this paper, especially the older literature provided great insight on the development process and fundamentals of the current market situations.

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12. APPENDIX

12.1 Results

	USA	Germany	Correlation	
Managerial advice in a portfolio company	High	High	**High**	**Similarity**
Major initial investment criteria	Idea	Founder	**Low**	**Difference**
Entrepreneurial spirit and social capital	High	Low	**Low**	**Difference**
Governmental facilitation	High	High	**High**	**Similarity**
Entrepreneurial hub	High	High	**High**	**Similarity**
Exit opportunities	High	Medium	Medium	-
Labor rigidities	Low	High	**Low**	**Difference**
GDP growth rate	Medium	Medium	**High**	**Similarity**
Economic history	High	Low	**Low**	**Difference**

12.2 VC Interview

1. Which decision criteria are most important for your company at each funding stage?
   1.1. Seed stage:
   1.2. Start-up stage:
   1.3. Second stage
   1.4. Third stage / Expansion, Bridge prepublic stage
   1.5. Exit stage/ Buyout, IPO

2. What are the goals and benchmarks for your company at each funding stage?
   2.1. Seed stage:
   2.2. Start-up stage:
   2.3. Second stage
   2.4. Third stage / Expansion, Bridge prepublic stage
   2.5. Exit stage/ Buyout, IPO
   2.6.
3. What are the major risks for your company at each funding stage?
   3.1. Seed stage:
   3.2. Start-up stage
   3.3. Second stage
   3.4. Third stage / Expansion, Bridge prepublic stage
   3.5. Exit stage/ Buyout, IPO

4. How well does the German government facilitate venture capital?

5. Where do your sources of funding come from?

6. Which organizational structure does your company use (tax benefits)?

7. At which stages does your venture most often invest? Concentration on different stages? (time period)

8. Which exit opportunities are favored by your company? (IPO, levered buyout, trade sale, acquisition, Secondary buyout

9. What do you think about the German social capital and entrepreneurial spirit?

10. Why do you think is the European VC market lagging behind the USA?