TALLINN UNIVERSITY OF TECHNOLOGY

School of Business and Governance Department of Business Administration

David Shengelia

VENTURE CAPITALISTS' INVESTMENT CRITERIA:

ESTONIAN SAMPLE

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Supervisor: Mait Rungi, Professor

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I declare that I have compiled the paper independently and all works, important standpoints and data by other authors have been properly referenced and the same paper has not been previously been presented for grading. The document length is words from the introduction to the end of conclusion.

David Shengelia

(signature, date) Student code: 156478TVTM Student e-mail address: david.shengelia@outlook.com

Supervisor: Mait Rungi, Professor: The paper conforms to requirements in force

(signature, date)

Chairman of the Defence Committee: Permitted to the defence

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(name, signature, date)

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LIST OF ACRONYMS

- ARD American Research and Development
- ASI Ambient Sound Investment
- BIF -- Baltic Innovation Fund
- CEE Central Eastern Europe
- EDF Estonian Development Fund
- EIF European Investment Fund
- EstVCA Estonian Private Equity and Venture Capital Association

GP-General Partner

- ICFC -- Industrial and Commercial Finance Corporation
- ICT Information and Communication Technology
- LP Limited Partner
- MVP Minimal Viable Product
- NVCA National Venture Capital Association
- PE Private Equity
- SaaS Software As A Service
- TSE Tallinn Stock Exchange
- VC Venture Capital

ABSTRACT

This paper is about the Estonian venture capital industry. The scope of the paper falls on the investment process of the Estonian venture capitalists, heavily focusing on the criteria that they take into account when evaluating investment proposals. The research has been conducted by David Shengelia in 2018, at Tallinn University of Technology as a Master's thesis.

The reason behind the work was guided by the curiosity and authors' personal interest to understand how venture capitalist identify successful startups and what are the specific characteristic that they look for when evaluating business proposals. Furthermore, there is not much literature available in the field which creates a gap between supply (venture capitalists) and demand (entrepreneurs) side of the ecosystem. This research tries to cover the gap by directly talking to the venture capitalists.

At the current stage, there are six venture capital firms operating in the region; Tera Ventures, United Angels, Superangel, Trind Ventures, Change Ventures and Karma Ventures. The author managed to interview five of them personally, utilizing semi-structured interviews.

According to the findings, Estonian venture capitalists consider a quality of the team as the most important factor. Furthermore, the result of research presents a set of criteria within the six categories (entrepreneur's personality, experience, product characteristics, market characteristics, financial and other characteristics) that are actively evaluated by venture capitalists' and have a high influence on their investment decision.

Keywords: venture capital, entrepreneurship, investment criteria, case-study, Estonia

INTRODUCTION

Venture capital is considered as an important, often the only source of finance for young and risky undertakings with high growth potential. Microsoft, Apple, Intel, Starbucks are amongst the long list of the world's largest corporations which were small venture capital-backed startups once. Today those companies are major influencers of the global economy and continue shaping the development of our society.

Venture capitalists are professional fund managers who raise funds from institutional and private investors with the aim to provide financing to the young risky companies. After investing, Investee companies receive needed financing and expertise from venture capitalist's as – value added. Based on the historical evidence, both: financial resources and expertise are equally important and vital for the entrepreneurs in order to grow their startups to the global level and reach success in the constantly changing and competitive environment.

Investment criteria applied by VCs always has been an attractive topic for; entrepreneurs looking for financing, investors seeking comparability and scholars seeking wisdom (Visagie 2011). Therefore, there is a vast literature available in the field. Despite years of research, none of them came to a unique, common conclusion – what are the most important criteria used by venture capitalist in their investment process. Moreover, Baygrave and Timmons (1992) claimed that the venture capital industries differed from country to country same is true about investment criterion.

Naturally, the countries with the comparatively larger economy and venture capital activities tend to draw researchers attention more than small counties. Therefore, there is not much known about venture capitalists based in the Baltic region and Estonia. The literature gap in the field was also highlighted by the pioneers of the Estonian venture capital research - Köomägi and Sander (2006).

Fortunately, development of the venture capital in Estonia has received much attention over last 5 years. Especially after the launch of Baltic Innovation Fund (2013) and EstFund (2016) which, subsequently became the reason of the 385% surge in the regions investment activity. (EstVCA

2017). Today Estonia proudly holds the 3rd place across Europe with the number of startups per capita (Funderbeam 2017). However, venture capital funds from the region still continue to invest in foreign startups, (around 30% of total investments undertaken) while domestic startups actively seek funding abroad.

The research questions of the current thesis are as follows:

- how Estonian venture capitalists evaluate financing proposals ?
- what are the criteria that they take into account in the process ?

Dividing the research problem into more specific entities, two research questions arise:

- What are the most important investment criteria considered by Estonian venture capitalists?
- What are the criteria considered by Estonian venture capitalists regarding the team, product, market and financial terms ?

Research Methodology

Considering the fact that this is the first attempt to investigate – how Estonian VCs make their investment decision, the author selected a multiple case study approach. Qualitative methods were applied to gather data.

Semi-structured interview questions were developed based on the prior literature review carried out by the author. Five venture capitalists from Estonia were interviewed and results were analyzed within and across the cases.

The first chapter focuses on the past findings by reviewing the literature from its earliest (Wells 1974) to more recent (Zinecker, Bolf 2015) studies. It gives an overview of the certain categories of investment criteria that typically, are considered as important by venture capitalist across the globe. The second chapter describes the methodology of the research. Lastly, the third chapter brings all together for analyses.

1. THEORETICAL BACKGROUND

1.1. Concept of a startup and its growth cycle paradigm

Eric Ries, a well-known entrepreneur from Silicon Valley defines a startup as; "an organization dedicated to creating something new under conditions of extreme uncertainty" (Ries 2011, 2). However, the most popular and frequently cited definition of startup comes from Steve Blank, a well-known serial-entrepreneur and mentor from the Bay area. According to him, startup is "a temporary organization in search of a scalable, repeatable, profitable business model" (Blank and Dorf 2012, 29). As a temporary organization startup has its life cycle (growth cycle) which typically, is described with from five to eight years (NVCA 2018, 7).

On their journey to success, startups move through different phases/stages. According to the National Venture Capital Association (NVCA), there are 3 main stages identified in the startup growth cycle (NVCA 2018, 51-55):

- seed stage the phase where a startup was just established and its founders are developing their product/service;
- early stage startups in this phase typically, have proven concept of product and core of the team is formed, however, there is no positive cash flow;
- later stage startups in this stage are more mature, they already have proven their concept and are close cash flow break even.

Moving through those stages, entrepreneurs often develop products and services that require substantial capital. Usually, founders do not have sufficient funds to finance projects themselves and are bound to look for financing elsewhere (Gompers 1994, 2). Fortunately, there are various financing/funding sources available for startup firms. Family, friends, customers, suppliers, private individuals, government agencies, business angels, venture capitalists, commercial banks and crowdfunding are identified as major financing sources amongst others.

Development process and the need for financing in new businesses are best described by the life cycle paradigm. Theory suggests that "financial needs and options change as the business grows, gains further experience and becomes less informationally opaque" (Berger, Udell 1998, 619). According to the theory, in smaller and younger firms financing usually, comes from internal sources (self-financing, friends and family). As firms grow, they gain access to other types of financing sources such as; equity and debt-based financing. Eventually, if the company manages to stay alive and continues to grow; public equity comes into play (*Ibid*.). The financial growth (see Appendix 1) paradigm is very popular and is actively used today by practitioners discussing new businesses and their need for financing. Despite the popularity of the paradigm, it still is a theory and can not fit every business scenario. The authors explained that in reality, variables; the size of the firm, age and information availability are far from perfectly correlated (*Ibid*.).

1.2. Concept of venture capital and its cycle

Modern, formal or so-called; institutional venture capital (VC) is a type of financial investment vehicle which raises funds from investors and invests it in startups through venture capital funds. "Venture capital funds, raise a large part of their funding from institutional investors and they usually invest the large amounts into firms with the potential for rapid growth" (EU). Those funds are managed by professional, institutional managers of risk capital - known as VC firms.

In the most typical scenario; VC funds are structured as limited partnerships, where VC firm itself is a general partner (GP) and investors are limited partners (LP). Those LPs usually, are institutional investors (fund of funds, insurance funds, pension funds, corporations etc) and wealthy individuals. VC firm can also be subsidiary of a bank, insurance company or corporation. There also are government-funded VC organizations, often created with the purpose to support developing businesses and startups via state money. There are also rare cases of independent VC firms which are owned by the management team and investing its own capital however they often are addressed as a family-office type of VC firms (Söderblom, Samuelsson 2014, 28).

As for venture capitalists, they are individuals that work in those VC firms and manage the VC funds. After investing in startups VCs, join the board of directors and participate in corporate governance. During their existence; "Venture capital funds make equity investments in a company whose stock is essentially illiquid and worthless until a company matures five to eight years down

the road" (NVCA 2018, 47). VC firms typically seek for minority ownership stakes in startups leaving the majority to the management teams. Despite the size of the ownership, VCs manage to build-up and maintain close control of their portfolio companies by the comprehensive contractual restrictions which provide them considerable influence over strategically important decisions (Kaplan, Strömberg 2003; Cumming 2008).

Overall, VCs have resources and industry experience. They add value and help young innovative firms to establish a competitive advantage by contributing their managerial know-how with industry knowledge (Keuschnigg, Nielsen 2004, 1012). In the most common scenario, venture capital supports new ideas that (NVCA 2018, 7):

- 1) could not be financed by the traditional bank financing;
- 2) disrupt established industries, products and services;
- 3) typically require 5-8 years (or longer) to reach maturity.

Venture capital cycle. In its simplest sense, VC may be viewed as long-term investment cycle which consists of 5 stages. 1) Fundraising - the process when VCs raise capital from LPs. 2) Investment – phase where VCs invest in young startups in need of capital to scale. 3) Company growth/nurturing - VCs add value to the startups by providing various management or leadership skills. Taking board seats, taking part in strategic development with the purpose to decrease startup failure. 4) Exit – typically after 5-10 years (depending on the company, industry and other variables) VC exits its stake. 5) Returns - the stage when VC and is LPs make a profit on their investment. 6) Re-investing. The fund ends when all investments have been exited and returns have been distributed to LPs. LPs may re-invest in the new fund formed by the same firm (NVCA 2018, 9).

The second phase (investment) of the VC cycle is the process where VCs provide funding to the entrepreneurs seeking financing. The figure presented below (see Figure 1) is a modern version of financial growth cycle paradigm adjusted on the startup scenario. It provides a better understanding of the role of VC and reviews investment stages together with startup growth cycle.



Figure 1. Venture capital investment stages Source: NVCA yearbook (2018, 7)

Angel/seed. Usually is defined as financing provided to the investee company before it starts mass production/distribution. The aim of Angel/seed funds is to assist startups in their process of creating prototypes. This type of funds are provided in the seed stage of the startup development and will not be used to start mass production/distribution (Invest Europe glossary). According to the NVCA, angel funds are identified as the first round and with the size less than \$500,000 (*Ibid.*, 57).

Early/startup stage. Funding provided to the investee company once the product or service is fully developed. The aim of this type of finance usually is to assist companies in their mass production/distribution and cover initial marketing. It covers initial working capital and expenditures (Invest Europe 2017, 30). In the US this stage is also known as Series A and B (NVCA 2018).

Late-stage. Financing provided for an operating company, which may or may not be profitable. Rounds are generally classified as Series C or D or later (Invest Europe 2018; NVCA 2018).

1.3. Origins of the modern venture capital

Venture capital as an activity has been around for centuries. Private individuals (motivated with high return potential) always had a tendency to invest in high-risk projects. However, the birth of modern, institutional venture capital took place in the 1940s US and is closely linked to the name G. Doriot. As mentioned above, venture investments as an activity have been around for centuries, but he was the one who turned it into a structured field of investment. Therefore, Doriot is justifiably known as the "the father of Venture capital" (Gompers 1994, 5).

Gompers explained that already back in 1930 - 1940s, wealthy American families; Rockefellers, Phipps, Morgans and Vanderbilts started to hire managers who would look for innovative risky ventures with high-return potential that were in need of financing. Back then, risk capital was extremely unorganized and those wealthy families were the ones who signaled the need for creating some sort of organized investment structure/instrument for the market (*Ibid.*, 5).

The first institutional VC firm was established in 1946 by the president of Massachusetts Institute of Technology (MIT) Karl Compton, Massachusetts Investors Trust chairman Merrill Griswold, Federal Reserve Bank of Boston president Ralph Flanders and Harvard Business School professor General George Doriot. Those fascinating people shared the belief, that new and small firms seeking funds to expand their operations could provide large capital gains and significantly contribute to the growth of the US economy which, in fact, was still recovering from the Great Depression (Gompers 1994; Hsu, Kenney 2005).

Compared to other investment firms which already were or, started to appear on the market (J. H. Whitney & Co., Rockefeller Brothers & Co.) American Research and Development (ARD) was the first non-family VC firm which started to raise capital from other sources than wealthy families. ARD was designed as a mechanism with the purpose of recycling a certain portion of the social savings into innovative startup firms, on the way to the discovery of; what Schumpeter called "New Economy Spaces" while, returning profits to the investors and society as well (Hsu, Kenney 2005, 592).

"Doriot was the heart and sole of ARD" (Gompers 1994, 5). He established new approach in the investment world by adding value to companies and not just money. ARD's started to provide industry and management expertise to their investee companies which significantly decreased their

chance of failure (*Ibid*.). The well knows quote – "An A-team with B-plan is always better than an A-plan with B-team" belongs to Doriot (Timmons, Spinelli, 2003).

It was the early 1980s when VC industry really exploded. This was caused by two important legislative changes. The Revenue Act, introduced in 1978 - decreasing the capital gain tax form 49.5% to 28%. Later in 1979, "prudent man" rule rolled out, which allowed pension funds to invest in VC. Those two changes came at the right time and massively contributed to the VC industry development (*Ibid.*).

ARD was the experiment which turned out as a great success. Later, in order to expand their effect subsidiaries and advisory boards were established around the US. ARD actively participated in the creation of affiliate VC firms in Canada and Europe as well. (Gompers 1994; Hsu, Kenney 2005).

1.3.1. Early days of the European venture capital

European VC history is a bit puzzled compared to the US. Despite the fact that European venture capital started to emerge in the late 1970s – there were individual companies that provided equity to unquoted firms much earlier. Those companies were; Investco in Belgium, Svetab in Sweden and ICFC in the UK (Landström 2007, 13).

The first European VC ancestor was born in the 1945 UK. The Industrial and Commercial Finance Corporation (ICFC). ICFC (later on known as 3i) was established by the Bank of England to provide long-term financing to the small and medium-sized companies. Similar to ARD, ICFC was allowed to raise external funding since 1959 and was operating similar to modern private equity funds. Despite the fact that ICFC was not pure institutional VC firm it helped to build up the necessary background, where a new American model of investing flourished. According to Clarysse *et al.*, venture capital industry in the UK really take-off in the 1970s, when experienced VC managers who had been operating in the United States started to arrive in the UK (*Ibid*, 10).

Early days of European VC industry is best described in the study by Tyebjee and Vickery (1988). In their study authors reviewed the European environment and the industry state in the early 1980s and concluded that the European VC industry was still in rather, early stage of development. Attentions were drawn to the fact that there were a "considerable differences in the technology, tax and economic policies... in addition to cultural and linguistic diversity" which was causing

disbalance in the amount of venture capital investments by European countries (*Ibid.*, 126). In other words, it was too early to talk about European VC industry as a whole.

What really was happening is that for a while, European VCs were under the shadow of its counterparts from overseas. Between 1081-1984s VC investments from the region (see Table 1) could, barely, reached one-eight of investments done in the US. But, In 1988 when European venture capitalists invested and raised more than the US, everything changed (Roure *et al.* 1990, 246). As a result, from 1990s European VC became an active topic for researchers and policymakers as well.

	1981-1984 (Av	erage)	1988				
Region	investment	activity	investment	activity	growth		
	(ECU ¹ million)	index ²	(ECU ¹ million)	index	giowiii		
Belgium	9	14	75	92	733%		
France	23	6	667	136	2800%		
Germany	22	5	125	12	468%		
Italy	3	2	122	40	3966%		
Netherlands	48	48	85	137	77%		
Spain	n/a	n/a	91	60	n/a		
United Kingdom	257	75	2,497	632	871%		
Total (Europe)	362	25	3,662	162	911%		
US	2,992	100	2,553	100	-15%		

Table 1. Early European Venture Capital Activity

Source: Roure *et al.* (1990, 246) Notes:

- 1. ECU European Currency. Replaced by euro in 1999.
- 2. Activity index is investment/GDP. It is normalized such as the index for the United States is 100.

It should be mentioned that despite the fact that the first institutional VC firm was formed in the US, it was founded by European man. Doriot was originally from France and only after 1940, he became the citizen of the US.

1.4. Main venture capital markets today

It is no surprise that the most VC funds generally are accumulated in the Western counties where GDP is high and naturally, innovations encouraged, highly supported (Teker *et al.* 2016, 215). according to the Marovac from the World Economic Forum (2017), the US is the most favorite target for the venture capital investments, especially, the Bay area. Overall, The US, Europe and China are seen as the top three VC markets. India has one of the largest rapidly growing emerging market. Taken together, China and India now hold a quarter of the global venture capital market. In terms of the size of venture capital investments (2006-2013), biggest regions are, as follows: The US, Europe, China, Israel, India and Canda (*Ibid.*).



Figure 2. Global venture capital investment by different sectors Source: KPMG Venture Pulse Q4 2017: Global Analysis of Venture Funding (2017, 14)

The figure above presents the VC sector preference from 2013 to 2017 globally. As seen in the figure (see Figure 2), VCs worldwide, prefer to invest in software. This trend in the VC investing can be explained by the conventional wisdom states that software-based products have lower production costs and therefore have a tendency to grow faster.

1.4.1. Benchmarking of the European and US venture capital industries

It should be mentioned that the task is not easy and should be done with extreme caution, especially, when choosing sources. This chapter uses data provided by National Venture Capital Association (NVCA - US), Invest Europe and PitchBook.

According to the conventional wisdom, 5 years is considered as VC investment cycle. Therefore, VC investments (2007-2011) and exit value statistics (2012-2016) from Europe and the US will be compared in order to identify major trends from those regions.

	,	Volume (b	illio	n)	Average	deal	size
Period		US	E	urope	US		Europe
2008	\$	36.9	\$	5.4	\$ 9,759,323	€	3,406,940
2009	\$	26.6	\$	4.2	\$ 8,225,108	€	2,641,509
2010	\$	31.6	\$	6.9	\$ 8,664,656	€	3,207,810
2011	\$	44.0	\$	6.8	\$ 10,669,253	€	2,535,421
2012	\$	41.2	\$	8.2	\$ 9,497,464	€	2,509,180
SUM	\$	180.3	\$	31.5	\$ 9,363,161	€	2,860,172

Table 2. Venture capital Investments by regions

Source: Invest Europe; NVCA; pitchbook reports (2017-2018)

According to the data provided (see Table 2), both VC markets are on the same trend, namely, both are expanding and shrinking similarly in the same timeline but, when it comes to numbers - European side of VC investments is lower than in the US. Average investments received by European startups from VCs in given (2008-2012) 5-year period equaled almost €29 million while the US counterparts had (approximately) 5-times larger amount.

Difference between the US and European VC industries is more obvious when reviewing total exit values (see Table 3). Review of subsequent five years (2013-2017) shows that the US VC-backed firms managed to exit with the total value more than 270 billion which (considering average exchange rate of the given period) equals to more than 210 billion Meanwhile, European total VC-backed exits reached only 0.21 61.8 billion.

	volume (billi	on)	average va	lue c	of exits
Period	US	Europe	US		Europe
2013	\$ 37.2	€ 11.8	\$ 41,797,753	€	30,025,445
2014	\$ 80.3	€ 12.0	\$ 75,399,061	€	22,346,369
2015	\$ 49.6	€ 13.8	\$ 49,500,998	€	25,650,558
2016	\$ 52.9	€ 12.6	\$ 61,156,069	€	26,751,592
2017	\$ 51.0	€ 11.6	\$ 63,040,791	€	27,230,047
SUM	\$ 271.0	€ 61.8	\$ 58,178,934	€	26,400,802

Table 3. Venture-capital-backed exits by regions

Source: Invest Europe; NVCA; pitchbook reports (2017-2018)

Despite the fact that Europe has a similar sized economy to the US and double the population, European venture-capital activity is about one-fourth of that seen on the other side of the Atlantic. It is true to say that the US VC had considerable head-start compared to Europe. However, European VC firms have been active for more decades and there are a considerable amount of fund managers who have seen multiple cycles and developed track records and sector-specific knowledge. Furthermore, European policymakers are very much recognizing the role of innovation and VC part in it (EU - Horizon 2020).

Fragmented market. Although the European Union is the world's largest single market when it comes to investing it is fragmented (see Figure 3) and has a little more barriers compared to the US (Marovac 2017). On the other hand, while there is no a single dominant are such as Silicon Valley, Europe has multiple hubs developing from Amsterdam to Zurich. Companies nurtured in those hubs are tougher when it comes to international, dealing with different languages, currencies and legislation.



Figure 3. Private Equity market shares by regions Source: Invest Europe (2016, 38)

Despite the fact that, VC industry has emerged from the US, Europe found its own way of developing it. Namely, European VCs prefer to "play safe" with smaller rounds and smaller exits. "A good exit in Europe is \$100 million or more, while a good exit in the U.S. is at least \$250 million" (Basta at TechCrunch 2017).

Overall, European VC industry is developing continuously but, compared to its counterpart from overseas, from a much smaller base. There sure is a gap between those industries but, Europe is catching up. Moreover, with that strong pipeline of exits (Cabify, Transferwise etc.) on the 2018th horizon the "game" may change very soon (Dealroom 2018, 37).

1.5. History of venture capital research

As mentioned above the institutional VC market was established by the end of the 1940s in the US. However, the scholarly interest in the venture capital started to raise only in the early 1980s. Landström (2007), explains that the reason behind this time gap was the early environment of the new phenomenon. In early stage VC market was relatively small, therefore, it was hard to spot its future potential. It was only in the 1980s when the industry started to scale up, so did the scholar's interest (*Ibid.*).

The first articles in the VC research started to appear in the 1970s and are expanding since then. Naturally, the pioneers who did spot the opportunity and took interest in the institutional VC market (Wells 1974; Poindexter 1976; Tyebjee, Bruno 1984; MacMillan 1985) were researchers from universities located in San Francisco, Boston and New York areas. In other words, near the area where the institutional venture capital was born. European studies in the field began to appear a bit later and the majority were from the countries that had relatively bigger dynamics in their VC markets. Namely, the UK - Mason (1987), Harrison (1990), Wright (1990), Belgium - Manigart (1994), Olofsson in Sweden (1994). Asian researchers played their part also and contributed to the VC research, however, most of the studies were carried out in collaboration with western researchers (Landström 2007, 16).

Later, in 1999 - Venture Capital: International Journal of Entrepreneurial Finance was launched. The journal played an important role by contributing to the emerging field. Since its launch, the numbers of the works published in the VC research has increased massively (*Ibid.*).

The early studies in the VC field can be viewed as descriptive of - how the process works, the role of key players, concepts together with frameworks that provided solid foundational for this developing line of research (Bygrave 1988). Most of this early studies where based on primary field research and on the secondary data.

Wells (1974) was one of the first researchers who approached the phenomenon and tried to describe VCs decision making process. Later, Tyebjee and Bruno (1984) updated the framework and presented five sequential steps in the VC investing process which is still actively used by modern studies. Those steps are as follows (Tyebjee, Bruno 1984, 1053):

- 1) deal origination creating deal flow, seeking potential investments;
- 2) deal screening a brief review of the available deals or/and proposals;
- 3) deal evaluation deals which pass the screening process are analyzed more in-depth;
- 4) deal structuring negotiating terms of investment;
- 5) post-investment contributing the investee firm with adding value. For example; serving on the board, advising, mentoring, assisting with follow-on investments etc.

Out of the five steps, the third – deal evaluation typically is identified as the core step in the VCs' decision-making process. Deal evaluation always was a special object of interest for researchers. Authors worldwide tried and are trying to find out what are the specific criteria employed by VCs'

in their investment decisions, however, "no research has come to a unique conclusion" (Šimić 2015, 461).

1.6. Venture capitalists' Investment criteria found in the past studies

Investment criteria applied by VCs always has been an attractive topic for; entrepreneurs looking for financing, investors seeking comparability and scholars seeking wisdom (Visagie 2011). Therefore, there is a large number of studies in the field. This chapter reviews the available literature related to the VC investment criteria from its earliest (Wells 1974; Poindexter 1976) to more recent (Visagie 2011; Šimić 2015; Zinecker, Bolf 2015) studies.

In all emerging fields of research, there always are the researchers who appear to have a greater influence than others (Crane 1972 in Landström 2007, 15). Same can be said about VC investment criteria research. Wells 1974, Tyebjee and Bruno 1984, MacMillan 1985 unquestionably, are the authors who shaped the nature of the research field and provided directions for others.

Everything started when Wells (1974), personally interviewed eight U.S based VC firms and calculated the average weight of an adequate number of criteria. According to these findings he has produced the following rank order: management commitment (10.0), product (8.8), market (8.3), marketing skill (8.2), engineering skill (7.4), marketing plan (7.2), financial skill (6.4), manufacturing skill (6.2), references (5.9), other participants in deal (5.0), industry/technology (4.2) and cash-out method (2.3). Later, Poindexter (1976) has adjusted the rank order of importance on such criteria from answers to questionnaires which he sent to a sample of 97 venture capital firms. However, quality of management stayed on the first place (*Ibid*.).

Tyebjee and Bruno (1984) carried out telephone survey on a sample of 46 US-based venture capitalists through which they calculated, for each criterion, the percentage of respondents mentioning it. According to the findings - management skills of founding team (with 89%) was highlighted as the most important investment criteria.

MacMillan *et al.* (1985) interviewed 14 VCs in the New York area and identified 27 investment criteria. Those criteria were grouped in the 6 groups: 1) entrepreneur's personality, 2) entrepreneur's experience, 3) characteristics of the product or/and service, 4) characteristics of the

market, 5) financial considerations and 6) venture team. Authors concluded that "There is no question that irrespective of the horse (product), horse race (market), or ads (financial criteria), it is the jockey (entrepreneur) who fundamentally determines whether the venture capitalist will place a bet at all" (Macmillan *et al.* 1985, 119). This quote became the crown of MacMillan's research and is still the most popular quote in the investment world.

Later, other researchers tried to replicate the same MacMillan's study in the different countries; Japan (Ray, Turpin 1990), UK (Sweeting 1991), Singapore (Ray 1991), Canada (Knight 1994), South Korea (Rah *et al.* 1994) and Europe (Riquelme 1994). All those author's findings were similar to Macmillan's namely – entrepreneur's personal characteristics and experience were identified as the dominant criteria (Zutshi *et al.* 1999).

Khan (1987), tried to investigate US-based VCs however, he used a different, comparatively new approach. Conjunctive and disjunctive methods where used to understand both; VCs' judgment and the environment (the actual outcome of ventures). Entrepreneurs' desire to succeed (drive) and the uniqueness of the product were stressed out as the most important variables emphasized by VCs' when judging a potential investment.

Another group of researchers (Riquelme, Rickards 1992; Zacharakis 1995; Muzyka *et al.* 1996; Shepherd 1999) tried to use conjoint analysis. The idea behind the method is to build-up structure of decision-making process and capture the relative importance of a list of attributes set against each other (Muzyka *et al.* 1996, 276).

The research conducted by Muzika *et al.* is one of the largest and ambitious studies from Europe. Authors questioned the previously conducted studies due to the following issue; research methodology and geographical (US) concentration. Therefore, researchers stressed out "We do not accept that this is valid; therefore, our study tested this assumption by investigating the trade-offs made by venture capitalists in Europe" (Muzika *et al.* 1996, 273). 35 investment criteria were identified and tested on the 73 VCs around the EU (UK, Irland, Germany, Austria. Switzerland, Italy, Nordic countries, France, Belgium, Netherlands, Spain, Portugal). Interestingly, all 5 criteria (out of initial 35) related to the management team were positioned in the top of the ranking. These top 5 were as follows: 1) leadership potential of the lead entrepreneur, 2) leadership potential of the management team, 3) existence of recognized industry experts in the team, 4) track record of

the lead entrepreneur and 5) track record of the management team. (*Ibid.*) The study conducted by Muzika *et al.* is the backbone of the European VC research and is still highly cited.

Other exceptional studies from Europe were carried out by Bliss (1999) and Karsai *et al.* (1998). They reviewed the evaluation criteria used by the local venture capitalists across the CEE region and compared it to the rest of the world. Karsai *et al.* (1998) concluded that in Hungary and Slovakia, VCs focus more on the evaluation of market opportunities, Polish VC firms consider entrepreneurial skills and a strong track record are the most important factors in their investment decision. Bliss (1999), focused on Poland and validated the importance of evaluating external factors, especially the country's legal and fiscal infrastructure. Overall, both studies emphasized the importance of the return potential.

Interesting findings were highlighted by Kaplan and Stromberg (2001) in their study. Authors reviewed 67 portfolio investments (1987-1999) made by 11 VC firms. According to the findings, VCs play an essential role in shaping the management team of their investee companies prior to invest (14% of cases). Another group of VCs (50% of the cases) expect to play such a role after investing takes place. Furthermore, the findings show that VCs try to avoid so-called: "principal-agent conflicts" (conflict of interests between VCs and management team of the investee company) though: 1) sophisticated contracting, 2) pre-investment screening and 3) post-investment monitoring and advising. Furthermore, according to Kaplan and Stromberg already in the screening process, VCs usually try to identify certain segments, where (they believe) they can add value (*Ibid.*, 429).

A pilot study using participant observation technique has been conducted in a Portuguese venture capital firm by Silva (2004). The researcher spent four months in a VC firm observing and analyzing verbal protocols from the role of investment analyst. Silva concluded that the firm's investment criteria are similar to the finding of the previous literature. "VCs' attention is indeed very much focused on entrepreneur(s), their personal and professional characteristics and their commitment fo the business idea" (Silva 2004, 140).

In 2008, Khanin *et al.* reviewed the existing literature in the field in their work – "Venture capitalists' investment criteria: 40 years of research". Authors concluded: top management team, market, product, risk, deal and competition characteristics as the most important VCs investment criteria discussed in the literature. Interestingly, it was pointed out that "while VCs themselves

typically believe that management capabilities matter more than any other factor, in-depth studies of VC decision making show that other characteristics, such as market growth rate and entrenched competition, may play a more important role" (Khanin *et al.* 2008, 187).

Kollmann and Kuckertz (2009) conducted study trying to find out on what criteria do VCs from German-speaking Europe (Germany, Austria, and Switzerland) base their investment decision during the process. In order to narrow down the results, all previously found criteria where analyzed and merged into 15 criteria that were distributed into the following 5 groups: 1) Personality of the entrepreneur, 2) experience of the entrepreneur, 3) product or service 4) market characteristics and 5) financial characteristics. According to the authors; "Above all, management criteria are of utmost importance in view of the fact that they not only influence a venture's future success but, at the same time, is extremely hard to evaluate" (*Ibid.*, 21).

Zinecker and Rajchlová (2010) reviewed investment criteria in the Czech Republic from the private equity and VC investors perspective. Criteria identified were similar to the existing research, namely; management, market, product and the rate of investment capital appreciation (*Ibid.*, 65).

Visagie (2011) investigated 16 UK-based VCs and concluded the order of importance of the investment criteria as follows: Management Team, Market, Product, Scalable Business Model, Commercial Proof of Concept and Specific factors set by VCs. Moreover, she suggested that VCs screening and evaluation process should be reviewed as a dynamic and not static process. "Entrepreneurs should be aware that VCs backed by different types of investors may consider criteria in different order of importance. The country within which the VC operates may also have an effect on their investment approach" (*Ibid.*, 12).

Berglund (2011) compared VCs firms from California and Scandinavia. 12 interview was conducted 6 from each region. Findings show that "Both Californian and Scandinavian VCs emphasize a combination of technology, markets and people when making investment decisions" (*Ibid.*, 130). However, VCs from Silicon Valley seemed to be more active and flexible in their selection criteria while Scandinavians, more static. Furthermore, VCs from the first group was more focused on adding the value to the team by forming good relations while, Scandinavian VCs seemed to be more interested in ensuring influence, i.e. that their advice would be considered. (*Ibid.*, 140).

In her study, Šimić (2015), did enormous work by analyzing up-to-date literature in the field starting from the early 1970s. The study shows that all criteria, identified in the past studies can be grouped into 5 main categories: 1) the entrepreneur's personality, 2) the entrepreneur's experience, 3) characteristics of the product/service, 4) characteristic of the market, 5) financial considerations.

Furthermore, the author proposes an additional set of criteria (investment readiness) that should be used together with those 5 categories. Investment readiness features following criterion; the willingness of entrepreneurs to renounce ownership, readiness to change the management, readiness for dialogue, readiness for the achievement of set goals, the VCs' intuition, "gut feeling" and personal sympathy for the management

(willingness of entrepreneurs to renounce ownership, readiness to change the management, readiness for dialogue, readiness for the achievement of set goals, the VCs' intuition and "gut feeling" and personal sympathy for the management) which should be used as a supplement to those 5 categories (presented above) for completing the VCs investment criteria checklist (*Ibid*.).

Zinecker and Bolf (2015) conducted an exploratory study to find out what are the investment criteria used by VCs in CEE (Czech Republic, Poland, Hungary, Slovenia, Slovakia and Baltic countries) and Russia. Based on existing literature 17 criteria were identified and distributed into four categories (Management team, Product, Market, Financials). 35 VCs form CEE region and 14 from Russia agreed to participate (response rate 12%). The study highlighted "competitive advantage of the product and its potential to generate high returns" (*Ibid.*, 94) as top criteria regarding the product, market volume and its growth rate towards the market and industry familiarities as the crucial investment criterion in the category – management experience. However, the study states that the "investors emphasize its lower significance compared to the product and market characteristics" (*Ibid.*, 94).

As Kollmann and Kuckertz pointed (2009) "Venture capital literature features plenty of possible investment criteria, and due diligence checklists may well include up to 400 different criteria" (*Ibid.*, 6). Moreover, with the later studies contribution, the list is considerably larger. Therefore, this paper will adopt the approached offered by Kollmann and Kuckertz (Appendix 3). Thus, the criteria found in prior literature will be analyzed and collected into the following 6 groups/categories: 1) entrepreneur's personality, 2) entrepreneur's experience 3) product characteristics, 4) market characteristics and 5) financial characteristics. The most frequently

discussed VC investment criteria in the prior literature from Wells (1974) to Zinecker and Bolf (2015) are merged and presented as sub-criteria of the 5 groups followed by the description/example in Appendix 4.

1.7. Venture capital activity in Estonia

Estonia, officially the Republic of Estonia, is a state in the Baltic region of northern Europe which re-established its political and economic independence from the Soviet Union in 1991 and became a European Union member state in 2004. According to the World Bank's statistics, Estonia sits on the 133^{rd} place with a total of 1.316 population as of 2018. The Gross Domestic Product (GDP) in Estonia is worth €19.2 billion, ranking 101^{st} in the world (World Bank 2018). Despite its small size, the country truly has an "entrepreneurial fever" and respectively ranks third in Europe regarding the number of Startups per capita (Funderbeam 2017).

VC industry in Estonia is represented by the Estonian Private Equity and Venture Capital Association (EstVCA). EstVCA serves as an umbrella organization, providing a variety of services and support in the area, to the Estonian VC or/and PE investors. Since its establishment in 2009, the organization is growing rapidly. According to their last report, all 38 investing members in the EstVCA had €880 million of assets with a total of 93 active portfolio companies under management by the end of 2016 (EstVCA 2017).

According to the Invest Europe 2016 report, Estonia took 6th place with total investment value and ranked between Hungary and Slovenia in the CEE region (see Figure 4). As shown below (see figure 5 and 9), 2016 turned out to be record year reporting; 385% surge in investment activate. Overall, \in 49 million worth capital was deployed in 21 Estonian companies through the first time (48%) and follow-up (62%) investments (Invest Europe 2017, EstVCA 2017).



Figure 4. Overview of the investment activity in the CEE region in 2013-2016 Source: Invest Europe: CEE private equity statistics (2016), 15. Values in a million Euros. Other consists of Bostina & Herzegovina, Macedonia, Moldova and Montenegro

According to the figure below (see Figure 5) that illustrates count of the 2016 investments and its distribution by sector – Business and Industrial Services (as B2B solutions) got the highest number of the deals. Indicating clear preference set by the supply side. (EstVCA 2017).



Figure 5. Distribution of total distribution of the investments in 2016. Source: EstVCA: report 2016, 27 Interesting points were highlighted by Startup Estonia – representative of the demand side in the region. According to the statistics provided by the organization, Estonian Startups raised \notin 102.5 million across 40 deals. The average deal size settled at \notin 2.6 million. The figure (see Figure 6) shows the distribution of the fundraising by firms. Furthermore, statistics show that in the period from 2006 to 2016 Estonian Startups managed to raise more than \notin 370 million with more than 80% of it from foreign investors (Startup Estonia 2017).



Figure 6. Total funds raised by the Estonian startups in 2016, values as thousand EUR. Source: Startup Estonia 2017

Skype is one of the most famous success stories in the region and around the globe. Taxify, TransferWise, Pipedrive, GrabCad, Fortumo, Cleveron, Adcash are amongst other global companies which started in Estonia. Nowadays, the region has a strong reputation in the startup world and often is addressed as "Startup nation". But, it should be emphasized that the success was not achieved in overnight – it is the result of years of hard work and the right strategic steps from the different: governmental and private parties. Development and evolvement of the industry in the region will be reviewed in the chapter below.

The VC as a research field has not been studied very actively in Estonia. The scholars who tried to approach subject are Köomägi and Sander from the Tartu University. In their last publication (2006) authors utilized a case study approach to understand the financing methods and procedures employed by Estonian VCs. Five interviews (structured) were conducted with representatives of the biggest VC firms operating on the Estonian (and Baltic) ground in the period between 2004-2005. Unfortunately, all of them wished to stay anonymous. Overall, Köomägi and Sander concluded that like in the rest of the world Estonian VCs prefer minority ownership and do not

consider dilution as a big problem. According to the study, VCs from the region do not use "complicated models to find the cost of capital" (Köomägi, Sander 2006, 4). Instead, most of the VCs analytics time was spent on the valuation models (*Ibid*.).

A significant contribution to the VC research by the Estonian Development Fund (EDF) which was the main bloodstream of the capital in the country since 2007. Some of the EDF's reported statements are reviewed the chapters below. Since 2009, the Estonian Private Equity and Venture Capital Association (EstVCA) emerges as the guardian of the industry. EstVCA continues to provide the valuable and real statistics from the industry which provides important background for this and future studies. The vital role of this type of association was highlighted by Köomägi and Sander as well. Authors stated that "It is quite difficult to conduct such research in Estonia because of the lack of official statistics" (Köomägi, Sander 2006, 8).

1.7.1. Evolvement of the Estonian venture capital

The early investment activity in the Baltic region started to emerge in the 1990s. Namely, after the Baltic countries re-established their independence from the Soviet Union (1991). However, even in Soviet times - the three nations of Estonia, Latvia and Lithuania were at the leading edge of industrial development (Kultalahti *et al.* 1997 in Johansen *et al.* 2000). After 1991, countries quickly managed to integrate into the trading economy of the Baltics and became a "New Frontier" for business investment. Naturally, the majority of the early post-Soviet investors in the region were from Finland and other Nordic countries (Johansen *et al.* 2000).

The first investment funds (IFS) started to emerge in Estonia in 1993. The industry was developing rapidly but, the crisis of March 1995 on IFS market significantly decreased field's development and shacked the investor's trust). Subsequently, concerned with the liquidity, IFs started to shift more towards open-end structure and already in spring of 1995 majority of IFs in Estonia was represented as open-ended ones. (Kein 1998, 15). State-imposed number of regulations in order to protect investors in the Law on Securities Markets in1996. Finally, everything led to the Tallinn Stock Exchange (TSE). TSE was launched in 1996. It played a significant role in developing Estonian securities market and prepared the background for VC industry (*Ibid*.).

As for venture capital – the first VC firm in Estonia was launched by the end of 1999. New Economy Ventures (NEV) emerged as the first institutional VC fund in the region and later expanded in Baltics. LHV played important role in the creation of the fund. According to the

Martinson (2009), the size of the NEV fund was approximately €3 million with around 10 companies in its portfolio (Martinson 2009, 27).

In the 2000s when Estonian VC continued its evolvement. The development in the industry was caused by the chain of events that took place into the "right time". Those events in sequence will be reviewed below

1) Idea. In 2000, the Estonian President Meri concluded in a speech that: "Finland built itself up at a rapid pace through a union between money and mind, and the Finns call that union SITRA (Finnish Innovation Fund). We, too, should focus all our strength on these tasks. Let us create a beautiful Estonian SITRA, and by doing so we can also achieve that something that we call happiness" (in Alasdair, Nightingale 2010, 10).

2) Skype. The well-known telecommunication application software specializing in providing voice and video calls was created (software part) by Estonian founders; Ahti Heinla, Priit Kasesalu, and Jaan Tallinn. Since its launch in 2003, Skype became a symbol of Estonian entrepreneurship spirit and managed to draw foreign investors' attention to the region. Furthermore, those 4 partners established Ambient Sound Investment (ASI) in Tallinn with the aim to assist technology Startups by providing financing.

3) European Union. In 2004, Estonia became the member state of the European Union. The government of the Republic of Estonia selected innovation-driven economy as the way forward. The Ministry of Economic Affairs and Communication was assigned to the task. The technology-based firms were identified as the key towards innovation. Further investigation showed that despite considerable growth in the PE and VC industries Estonian investors were focusing on later-stage deals and creating (not intentionally) so-called "equity gap" for young companies (Kelder, Viimsalu 2009, 4)

4) Investigating VC industry. Aware of existing shortcomings, the Division of Technology and Innovation of the Ministry of Economic Affairs and Communication, assigned - Zernike Group (leading expert in the field of start-up creation and support) to investigate VC financing in Estonia and provide recommendations how to support and help entrepreneurs. In 2004, Zernike Group conducted research and confirmed the existence of financing gap in namely, in the seed stage.

Recommendations were forwarded to the Ministry of Economic Affairs and Communication (Lange, Bruin, 2004).

5) ASI. In 2005, ASI sold its Skype shares to eBay and accumulated a large number of assets in the ASI which was acting as private family-office type of investment vehicle. Today, ASI is around €100 million fund, holding approximately 50 companies in their portfolio.



Figure 7. The Role of the EDF: covering the equity gap Source: Kelder, Viimsalu 2009, 7

6) EDF. In the April of 2007 EDF was created to fulfill recommendations and findings from the 2004 research. EDF was established as a legal public institution under the Estonian Development Fund Act with the aim to contribute to the Estonian economy growth by investing and co-investing (with private investors) in early-stage innovative startups with high growth potential. Under the same law, EDF also was assigned to provide entrepreneurial education and supportive programs for the Startups. Unlike typical state agencies, EDF was constructed as an independent body (not under the executive branch). EDF was independent organization however, it still needed to report to the legislative branch. Therefore, the Ministry of Economic Affairs had a certain supervisory role (Kirihata 2016, EDF 2013). The early structure and activity of EDF are illustrated in the figure (see Figure 7).

It was the period between 2013 to 2016 when Estonian VC industry really started to took-off. The rapid evolvement of the VC market in the region was triggered by the two events. Namely, 1) the launch of Baltic Innovation Fund (BIF) and 2) EstFund.

BIF. In 2013, The $\in 100$ million Fund-of-Fund was formed as the result of cooperation between; the three Baltic countries and European Investment Fund (EIF). Resources were accumulated in the following manner: EIF - $\notin 40$ million, Estonia (through KredEx) - $\notin 20$ million, Latvia (through LGA) - $\notin 20$ million and Lithuania (through Invega) - $\notin 20$ million BIF was created with the aim to aid the regional enterprises with capital by investing into regional (sub-funds) funds which were investing in those small and medium-sized enterprises (SMEs) with high growth potential (KredEx 2013, 20). BIF became the most ambitious and promising project in the region. Later, in 2015, the size of the fund was increased to $\notin 130$ million (*Ibid*.).

EstFund. In the March of 2016, Ministry of Economic Affairs and Communication together with EIF and KredEx signed an agreement which led to the foundation of the EstFund. EstFund carries the role of €60 million Fund-of-Funds targeting smaller and earlier stage investments. EstFund was designed to complement the already existing BIF and (as EDF) aimed to fill the "equity gap" in the region (Kredex 2016, 15).

Thus, by the end of the 2016 EstFund's €60 million worth assets were ready to be deployed in the following manner (*Ibid*.):

- 30 million across VC funds;
- 15 million across expansion capital funds;
- 15 million across business angels and co-investing funds.

EstFund became a game changer in the VC market causing extreme 385% surge in the total investment activity (see Figure 8).



Figure 8. Estonian investment activity 2013-2016 Source: EstVCA (2016, 24)

Today Estonian VC industry in Estonia is represented with a small number of firms but, with initiated by the experienced VCs with a good reputation already back in the days of EDF.

Termination of the EDF. As was mentioned above, the success of the Estonian VC and startup ecosystem was not achieved overnight. Since its establishment (2007) EDF massively contributed to the early development of the Estonian VC industry. In 2016, the EDF's cycle was (almost) complete. Furthermore, EstFund took over the role of filling the equity gap and EDF was terminated under the Foresight Act. KredEx and Foresight Centre where the parties who divided the tasks of EDF. Furthermore, AS SmartCap which was created by EDF in 2011 as the manager of the fund's direct investments operating as 100% subsidiary, was transferred to KredEx (KredEx 2016, 15).

Since the June of 2016, SmartCap is operating as Kredex investment arm, however, with the new guidelines. With regard to the new strategy, SmartCap stepped down from direct investing activities. The organization took the Fund-of-Funds approach, investing in in private accelerator funds. Furthermore, "open call" was announced for managing SmartCaps portfolio from early days of EDF known as the Early Fund II (KredEx 2016, 21). Private fund - Tera Ventures won the contract for managing the portfolio and now serves as a fund manager, guarding 12 investee companies.

KredEx originally, the Estonian Credit and Export Guarantee Fund was founded by the Ministry of Economic Affairs in July 2000. The true date of birth of KredEx is 26th of February 2001 when it merged with the Export Credit and Guarantee Foundation, Small Business Loan Foundation and the Estonian Housing Foundation. (KredEx 2001). Nowadays, KredEx is "a financial institution helping Estonian enterprises to develop faster and securely expand into foreign markets" (Kredex 2016, 7). To do so, the organization; provides loans, venture capital, credit insurance, and guarantees assured by the state (KredEx 2018).

2. METHODOLOGY

Considering the fact that this is the first attempt to investigate – how Estonian VCs make their investment decision, study has descriptive – exploratory nature. Therefore, the author has selected a multiple case study approach and applied qualitative research methods to gather evidence.

Yin (2013), explains that among other methods in existence, the case study research is the most effective when addressing "how" or "why" questions and when the "focus is on a contemporary phenomenon within a real-life context" (*Ibid.*, 8). The role of a case study is especially vital when exploring the topics which never been studied before (Vissak 2010, 371). There are two types of case studies identified; single and multiple. A single case study typically is applied when working with a rare or critical event. However, multiple case studies are utilized when a generalization is needed. (*Ibid.*).

Eisenhardt (1989) explains the methods used to collect data for case studies. Those are as follows; archives, questionnaires, observations and interviews (*Ibid.*, 534-535). Considering the fact that Estonian venture capital industry is represented by a small sample (six VC firms) the author selected interviews as the method for data gathering.

Semi-Structured interviews were developed based on the prior literature review conducted by the author and discussed in the chapters above (see Chapter 1.6,). The interviews question can be seen in Appendix 6. According to Starr (2014), it is better to use semi-structured interviews when

dealing with the small sample because it will allow a better overview of respondents' views about the problem (*Ibid.*, 241).

2.1. Sample description and Analysis

Prior research (EstVCA reports and private discussions) was conducted to identify formal, institutional VC firms operating in the region. Overall, six such companies were identified. All six firms were positive about contributing to the VC research field, however, only five managed to participate in the research. Four interviews were carried out face-to-face and one via Skype. Subsequently, five responds were transcribed. Two of those transcriptions can be found in the appendix (Appendix 7,8). Three interviewees wished not to publish the interviews. However, all 5 transcripts were used to generate a word cloud. The method used for generating the word cloud will be reviewed below in the analysis part of this chapter.

In multiple case study, each case is viewed as a separate experiment.(Eisenhardt 1989). Therefore, it is important to define cases prior the research.

Tera Ventures. Founded by the SmartCaps's former investment manager Andrus Oks, Stanislav Ivanov and James Patrick Mcdougall Tera Ventures is one of the most experienced VC firm in the region. Together with Martin Hendre and Erik Anderson Tera's team counts 5 members (Tera Vnentures, Pettai, 2018).

United Angels. Founded by Riivo Anton, Gerri Kodres and Indrek Kasela, the fund has strong entrepreneurial experience, knowledge and network how to scale up companies to the global level.

Superangel is a result of cooperation between Mobi Solutions (Rain Rannu, Veljo Otsason) and Astrec Baltic (Marek Kiisa). The team of Superange has a strong reputation and experience in establishing and building start-ups and managing venture capital investments (Pettai, 2017).

SmartCap is one of the investors in Superangel, contributing €4.2 million under its new investment strategy activity - "accelerator procurement" announced in October 2016 (*Ibid*.)

Trind Venture. Founded by Joel Aasmäe, Ivar Siimar, Taavi Lepmets, Kimmo Irpola one of the largest VC firm in the region. Members of the team have a long track record from both; PE and Angel investments. Furthermore, some of the team members have played a significant role in forming the first Estonian institutional VC firm NEV back in 1999 (Trind 2018)

Karma Ventures - the largest VC fund operating across Europe was launched in 2016 and is based in Estonia. Karma's team consists of three founding partners; Margus Uudam, Kristjan Laanemaa, Tommi Uhari and three Associate/analysts; Marili Merendi, Liisa Suvorova, Anna Grigoryeva. Margus and Kristjan previously were managing ASI portfolio. As for Tommi Uhari, he has long track record working as high-tech executive at ST-Ericsson, ST- Microelectronics and Nokia.

ASI is a cornerstone investor in Karma Ventures. Famous Skype founders, Ahti Heinla and Jaan Tallinn currently are acting as exclusive advisors to the Karma Ventures (Karma 2018,).

Analysis. The interview transcripts were analyzed within and across cases. Firstly, transcripts of the interviews were coded and key points noted. The terms (criteria), found in the literature review and presented in the Appendix (see Appendix 4) were used to generalize the key words pointed out in the content analysis of the interviews. The key words that diverged from the prior defined patterns were also used in cross-case tables. Subsequently, all key words were distributed to the cross-case table. The cross-case table was used to run cross-case analyses – find similarities and differences between interviewees' answers. Moreover, the table was used to reach conclusion as well. In addition, the author generated word cloud to see which key words were frequently used by VCs when discussing investment criteria.

Wordcloud.com was used to generate the word cloud. The author combined all transcriptions' parts directly related to the investment criteria thus, responds provided from number 11 question (see Appendix 6). Author's questions were removed from the transcript in order to get as much vintage points as possible.

3. RESULTS AND DISCUSSION

Based on the author's thoughts and keywords identified with content analysis, a cross-case table was created. The cross-case table was used to find similarities or/and differences between the 5 VC firms from Estonia. Subsequently, the cross-case table was divided into three parts corresponding to the three following topics - description of the VCs firms, their investment process and investment criteria. Cross-case tables together with authors observations will be presented in the following sub-chapters.

3.1. Overview of the venture capital firms

During the interviews, representatives of VC firms were asked to describe VC firms accordingly. Follow-up questions were used to gather information on the topics; year of establishment, the current size of the VC fund, investment range per project, average deal flow (as the number of investment proposals per year), number of companies in the portfolio, investing stage, industry sectoral and regional focus. The findings are presented in the table below (see Table 4).

Tera Ventures	Superangel	United Angels	Trind Ventures	Karma Ventures				
Established in								
2016	2017	2017	2016	2016				
Fund size								
20	16	16	21	60				
Deal flow								
400	500	300	400	>1000				
Funding range								
0.2 - 1	0.05 - 0.25	0.1 - 1.5	0.1 - 3	0.5 - 3				
Average size of the f	unding provided	by VC firm						
0.6	0.15	0.8	1.55	1.75				
Companies in portfol	lio							
12	0	5	<6	9				
Investing stage								
seed	seed - early	seed to A round	early to A-round	late and A- Round				

Table 4. Cross-case table – VCs' profiles

Sector focus									
broadly digital	broad, software (preferred)	ICT, software solutions with B2B, SaaS,	broad software solutions	-ICT, software, -deep-tech (preferred)					
Regional focus									
Estonia, Finland,	Europe	Estonia	North and	Europe					
Denmark, Latvia,			central Europe,						
Lithuania, Poland,									
Sweden, Czech			main focus:						
Republic.			Baltics Finland.						

Source: Author based on interviews conducted (values in million EUR).

According to the cross-case table (see Table 4), VC firms were established between 2016 to 2017. Superangel and United Angels were launched by the end of 2017 therefore, they are the freshest VC funds in the region. The fact that all 5 VC firms started in the same period of time strengthens the point expressed in the chapter above (See Chapter 1.7.1.) that pointed out the launch of the 2 Fund-of-Funds (BIF, EstFund), as the main reason behind the increased numbers of institutional VCs in the region.

The total capacity of funds during the course of interviews (February to March of 2018th) is presented in the corresponding section of the table(see Table 4). The median capacity of funds operating in the region is described with \notin 20 million. However, some funds are still evolving planning to expand in the size. For example; the representative of Superangel pointed out that they are aiming to achieve \notin 20 million as the final capacity of the fund, while VCs from the Trind Ventures is aiming for \notin 30 million.

The median size of the annual deal flow equals to 400. The metric describes the number of the investment proposals that Estonian VCs can, or are, willing to review per year. However, on the follow-up question - "how many of them do you invest in?" Estonian VCs replied that typically they invest, up to 4-5 deals per year. Comparing the average 1% share of undertaken investments by Estonian VCs from the initial deal flow, to the corresponding 3% found in the rest of the world (Šimić 2015, 458) may be interpreted as an indication of a low quality of demand side.

As seen in the table each VC firm has specific investing stage and are covering seed to A-round diapason. Overall, with all those 5 funds in the place "now, Estonian VC industry can support an idea for a longer way" (Appendix 8).

Seed stage is covered by Tera Ventures and Superangel. Trind Ventures and Karma typically come into play in the later stages when tractions (quantitative evidence of the demand) can be seen. United Angels, is a syndicate, co-investing fund, therefore, located in the middle of the funds stretching from seed to A-round. Reviewing firm's investing stages and size of financing together with the data gathered during interviews, opens up interesting insights;

- 1) the size of the VC financing in the seed varies from \in 50.000 up to \in 500.000,
- 2) the size of investment in the early stage goes up to $\notin 1.300.000$,
- 3) later stages financing starts from $\notin 3.000.000$.

Based on the cross-case table (see Table 4), Estonian VCs do not have fixed industry focus. However, similar to their counterparts from the rest of the world (see Figure 2) they also prefer to invest in virtual products. Estonian VCs explained that this preference is derived from the nature of virtual products. Typically, virtual products do not have high "production" costs and therefore, have the ability to scale-up faster than physical products that require production.

The geographical focus seems to cover whole Europe however, Estonian VCs revealed that main focus is on the Baltic and Nordic countries. Moreover, Riivo Anton explains; "Although there are funds who try to have some kind of a global reach, I think usually, funds still have some, let's say hot spots, regions where they have more network. I think Estonian funds... Even if they don't say it, they actually do the same" (Appendix 8). In the other words; Estonia is the "hot spot".

Overall, it can be said that the information received from interviews about presented in the table (see Table 4) coincided with the author's prior findings (see Chapter 1.7.1.) and expectations. Furthermore, VCs profiles and investment values are similar to the European pattern. For comparability, the author created a figure (see Figure 9) which compares investment pattern found in Europe and in Estonia.



Figure 9. The median size of the financing provided in the three stages in Europe and in Estonia Source: Pitchbook reports and author's observation (values in millions)

Based on the chart above, Estonian VC financing is close to the European pattern with strong seed stage. A small number of later stage VCs can be seen as the reason for the shortage in the early and later stages.

The author also wants to emphasize the thought that - VCs preference towards software solutions should not be seen as the drawback for entrepreneurs with hardware solutions. As mentioned above, the preference is derived from the conventional wisdom that software solutions can be scaled-up faster. Therefore, entrepreneurs with hardware solutions should focus more on the scalability aspects of their products when pitching the investors.

3.2. Estonian venture capitalist's investment process

During the interviews, VCs were asked to talk about investment process and investment strategy. Follow-up questions were used to gather all vantage points and steps involved in the process in order to form a pattern of VC investment process in the region. Findings are presented in the table below.

Tera Ventures	Superangel	United Angels	Trind Ventures	Karma Ventures
Investment pro	cess			
-screening	-screening	deal generation,	deal generation,	screening,
-evaluation	-team meeting	screening,	screening,	research-
-investing	-evaluation	evaluation,	1st Evaluation	evaluation,
	-founders	team meeting,	(Individual bases),	team meeting,
	meet the team	further	2nd Evaluation	final valuation-
	-final	validation,	(group discussion),	voting,
	evaluation	final	team meeting	legal due
	and voting	evaluation-	further validation,	diligence,
	-investing	voting,	final evaluation-	Investing.
		Investing.	voting,	
			Investing.	

Table 5. Cross-case table – Investment process

Source: Author, based on interviews conducted

According to the table, the investment process of the employed by Estonian VCs is complex compared to the Tyebjee and Bruno's (1984) model. Based on the table (see Table 5) typically, investment process is described by the 3 vital steps; 1) screening, 2) evaluation, 3) investment. However, the process gets more complex when moving towards later stages.

Deal generation. During the interviews, two VCs emphasized the process of deal generation. It was pointed out that apart from the applications received from web-pages VCs are actively involved in the process of finding deals. As one of the VCs explained, "You cannot really get a quality deal flow by sitting in the office and hoping that someone will email you the successful investment opportunity". Researching, networking and conferences were named as main sources for deal searching among others. Subsequently, all those deals are gathered and forwarded to the screening. Estonian VCs named Trello as the useful software for working with deal flow.

Screening. Empirical research suggests that from 100 deals, half are dropped after 20 minutes of screening the founding team or the business plan (Cvijanović *et al.* 2008, Albers 2006). Considering the finding from the previous sub-chapter (Estonian VCs typically are evaluating 400 deals per year), it can be assumed that, Estonian VCs screen approximately 1.5 deal per day.

Evaluation. The deals which pass the screening is forwarded to the further evaluation where they are reviewed more in-depth. According to the table (see Table 5) some VCs are conducting evaluation more than once. Unlike others, VCs from Superangel pointed out that after the screening, teams are invited for a 20-minute interview conducted by their associate and only after that are moved to the in-depth evaluation. Subsequently, teams which pass the evaluation are invited again to meet the founders. According to Šimić (2015), only 15% of the deals from the initial deal flow reach the final evaluation (*Ibid.*, 458).

Team meetings. Team meeting is the step in the VC investing process where the representatives of the startups, typically the management team is invited for a face to face. There is a considerable amount of literature focusing this certain step. Interestingly, the study Brooks *et al.* (2014) found out that "Investors prefer entrepreneurial ventures pitched by attractive men" (*Ibid.*)

There were not any gender preferences indicated during the interviews in Estonia however, VCs pointed out team meetings as a vital step in the evaluation process. Moreover, they agreed that it is the step in the evaluation where VCs intuition, "gut feeling" is formed.

Voting. Voting takes place during the final evaluation. Typically, the deal gets funded it gets the majority of votes. Furthermore, Estonian VCs revealed the situation where a partner has an intuition-gut feeling and he or she drives the deal based on that. In this case; there is a possibility that rest of partners may decide to trust the partner's gut feeling and agree to fund the deal. However, this situation is very seldom and typically happening when the size of the investment is low.

Unlike others, VCs from Karma have a different rule of voting - consensus. In other words, they only invest if all partners vote for it. Considering the fact that Karma's team is represented with six members, consensus may be seen as a tool of reducing emotional such as intuitive, influence on investment decision.

Overall, Author wants to draw attention to the fact the gut feeling is typically seen as the mystery of investment criteria research. As of today, there is no study that can answer the question; whether

VCs should ignore or trust the gut feeling. On the other hand, indicating the model of voting employed by VC firm can be used as upper hand by entrepreneurs seeking funding.

Based on the pattern formed in on the table (see Table 5) investment process in Estonia can be described by the following steps: 1) screening, 2) evaluation, 3) team meeting, 4) final evaluation – voting and 5) investing.

3.3. Estonian venture capitalist's investment criteria

During the interviews, VCs were asked to talk about investment criteria which they take into account when evaluating investment proposals. The cross-case table below illustrates findings by comparing criteria in the 5 VC firms based in Estonia.

Tera Ventures	Superangel	United	Trind Ventures	Karma Ventures					
		Angels							
Entrepreneur(s) personality:									
-vision	-vision	-	-vision	-motivation					
-motivation	-motivation	extraordinary	-motivation	-commitment*					
-commitment*	-commitment*	personality	-commitment*	-learning ability					
-ambition				-resilience					
-learning ability									
Entrepreneur(s) ex	<u>xperience:</u>								
-track record*	-track record*	-track	-management /	-management /					
-general	-management /	record*	leadership	leadership skills*					
competence	leadership skills*		skills*						
general									
competence									
Market characteri	stics:	1		1					
-general market	-size of the	-market	-market size*	-market size*					
validation	market*	size*	-market growth	-market growth					
-market	-growth	-market	potential*	potential*					
acceptance	potential*	growth	-maturity of exit	-market					
interest		potential*	market	acceptance*					
		-M&A		-market trends and					
		activity in the		drivers					
		vertical		-competition					
				-barriers to entry					
Product characteristics:									
-general	-scalable *	-scalable*	-scalable*	-scalable*					
evaluation of the	-early traction	-early	-customer	-business model is					
prototype or	-early users	traction	adoption	similar to dominant					
product vision	-prototype	-early users	strategy	-existing traction					
	-customer adoption			-level of					
	strategy			innovation*					

Table 6. Cross-case table – Investment criteria

			-customer	-product is hard to
			maintaining	copy
			strategy	-early users
			-existing	
			traction	
			-early users	
Financial terms an	nd characteristics:			
-no hard criteria	-ROI*	-syndication	-ROI*	-ROI*
		-size of the	-liquidity*	
		investment		
		-liquidity*		
Other characterist	ics:			
-team	-team	-team	-team	-team
collaboration	collaboration	collaboration	collaboration	collaboration
-timing	-timing	-gut feeling	-gut feeling	-possible sectors
	-gut feeling	-sufficient	-sufficient	for value adding
		founder	founder equity	
		equity	-multiple	
		-startup	founders*	
		potential to		
		potential to		
		become		
		become leader in the		

Source: Author, based on interviews conducted, (shared criteria is marked bold) Note: * indicates that the criteria that matched with literature review (see Appendix 4)

Entrepreneur(s) personality. The criteria highlighted in the cross-case table supports the thesis that VCs consider commitment level of the entrepreneur(s) as the most important criteria with regard to the personality. However, the general likeability, as criteria offered by the literature reviews (see Appendix 4) was not supported. It seems that Estonian VCs specifically build their judgment by reviewing the vision and motivation of the entrepreneur.

The cross-case analysis pointed out other criterion that seems to be specific for the fund. Those are; entrepreneur's extraordinary personality and learning ability.

Riivo Anton explains that; "starting a startup and scaling it up is an extraordinary thing and extraordinary things can only be done by extraordinary people".

As for learning ability to learn new things in a short period of time was seen as strong criteria for Karma and Tera.

Entrepreneur(s) experience. Scholars explain that VCs use track record as the predictor for entrepreneur(s) management and leadership potential (Khanin *et al.* 2008, 188). The crucial criterion for the Estonian VCs in the category dedicated to management's experience is as follows: track record and management/leadership skills of the entrepreneur(s). The findings of the cross-case table (see Table 6) is similar to suggested by the literature review (see Appendix 4).

Market characteristics. The expectations were met in terms of market criteria. According to the cross-cross case table (see Table 6), size of the market and its growth potential are seen as the commonly used by Estonian VCs when evaluating market characteristics.

It was noticed that Estonian VCs believe - moving towards a big goal can provide big returns. However, each VCs has its preferred size of the market. That preference is derived from the phase and size of investments. Generally, preferred total market size varies from 100 million to 1billion (private discussion)

Product characteristics. As shown in the corresponding section of the cross-case table (see Table 6), scalability is seen as the main criteria by Estonian VCs when evaluating the product. As for proprietaries, Estonian VCs opinions were same namely, they do not consider it as a criterion. It was explained that it is the product and its innovation that itself should offer some level of protection from the competitors. Riivo Anton said: "If you go really into Tech, then sure you should have something protectable or that could be kept as a secret. If you go to web services it is more like; execution play.

Financial characteristics. Liquidity and ROI seem to be dominant criterai in the Estonian sample. Based on the interviews the author carried out following observation regarding the VCs' (approximate) expected return in Estonia:

- seed stage: x10-30,
- early stage: x10,
- late and follow-on investments: x5.

Other characteristics. The final section of the cross-case table (see Table 6) represents found criterion which could not be assigned under any prior defined category. Among those criteria following seem to be relevant for all of the interviewees: team collaboration ("chemistry" within the members of the team), , sufficient founder equity (reasonable equity distribution), gut feeling

(VC's intuition and its influence on the investment decision) and timing (as the timing to hit the market).

Collaboration ("chemistry") within team members was the investment criteria considered by all 5 VCs during interviews. One VC commented that understanding team dynamics help to see what future work with the team will be like.

As Estonian VCs explained sufficient equity distribution is closely linked to the motivation and therefore, the performance of the team. VCs shared examples similar to the scenario where; there is a good team but the early investor who typically is father or friend of the family has invested the first 50.000 and now holds the half of the company. Overall, VCs believe that equity should be distributed reasonably. People doing "the work" should have sufficient portion of equity in order to keep motivation aligned.

Gut feeling has lots of supporters from the VC investment criteria research (Beim, Levesque 2004; Cope 2004). As mentioned above (see Chapter 3.2) the influence of gut feeling is closely linked with the size of the investment. However, it will be still considered as the criteria found in the Estonian sample.

The findings of past studies regarding the timing (timing of hitting/entering to the market) as a VC investment criterion can be grouped in two groups. The first group states that 1^{st} movers always have an advantage and this is the best timing to enter (Suarez 2007). On the other hand, the second group sees being $2 - 3^{rd}$ mover as the perfect timing. (Visagie 2011, 51). Based on interviews Estonian VCs seem to belong to the second group.

Overall. comparing the findings of the cross-case table (see Table 6) to the criteria found in prior research (see Appendix 4) indicate that Estonian VCs use similar criteria as the VCs around the globe.

Apart from criteria, the author also tried to indicate relative importance by asking Estonian VCs to share their opinions about the quote "Better invest in A-team with B-plan than in B-team with A-plan", interestingly, all VCs replied similarly. The A-team was seen as the most important than the product or other characteristics. Andus Oks explains that "Well, there are very few startups that do not pivot. The eventual success will be usually very different; I mean the business model, in the

end, will usually be very different from the model which they started from. Thus, it is not a question how good initial plan is, it is the people and how well they can react on market feedback, adapt to its needs, build the idea and scale the company" (Appendix 7). Overall, Estonian VCs seem to be more eager to actually dive into startups everyday life, all up sleeves and fight for success than author expected. One VCs commented that he wants to be the kind of investor which get the first call if something goes well or bad.

Interesting observations were derived from the follow-up question that asked VCs to describe "A-team". According to the response, the startup with up to 5 persons that are all experienced in their fields and have a globally scalable idea is seen as the A-team. One VCs commented that the team with 5 or more members are not (typically) attractive. As he explains "suddenly it becomes nobody's problem" (private discussions). Another opinion stressed out that "you may have a brilliant team dealing with very local issues but, it does not make sense for us, I mean who would like to go global" (private discussions).

Finally, a closer look at the cross-case table (see Table 6) indicates that density of criteria varies change within funds. For example; the funds operating in the later stage (Trind, Karma) seem to validate product and market characteristics more than Tera and Superangel as the funds operating in the seed. United Angel as co-investment fund diverges from other due to its mandate. Overall, the author suggests adding extra criteria - VC specific.

Visagie (2011) is one of the biggest supporters of the VC specific as a criterion. As she defines, VC specific criteria "Means the factors specific to the VC such as the fund's portfolio, fund phase or timeframe within which a return is required in order to fit in with the time horizon of the fund" (*Ibid.* 30).

The figure below (see Figure 10) was created by the author based on the analysis of the results and observations. It represents the criteria that are commonly used by Estonian VCs when evaluating the business proposals.



Figure 10. Venture capital investment criteria found in Estonian sample

Source: Pitchbook reports and author's observation (values in millions)

For entrepreneurs seeking funding

Entrepreneurs looking for the funding should use the findings from this study in the following way.

- Estonian VCs are influenced by the VC specific factor which means that entrepreneurs who are aware what factors are influencing the decisions of those firms have an advantage.
- It is true that VCs are evaluating deals and validating the information. However, entrepreneurs should realize that before applying for the funding they should validate the VC firm as well.
- For example; indicating that VC firm is located in the seed stage means that they do not have strong preference towards financial criteria. Therefore, entrepreneurs should focus more on introducing team and early traction if there is any.
- VCs also pointed out that they are not experts in products and they believe that team is, however, they also pointed out that they do not take in (most cases) serious financial projections offered by team (so-called "hockey stick" charts). Entrepreneurs should realize that VCs are specializing in reading the market data and should focus on presenting team and product more then what they believe will be in 5 or 10 years in terms of revenue.

CONCLUSION

The purpose of this work was to shed light on the Estonian venture capital industry by answering on question starting "how", "why" and finally – what are the criteria that employed by Estonia VCs in their investment process. Multiple case-study was carried out on the five VCs from the region and results were analyzed within and across the cases. The results will be concluded below.

This research concludes that the investment process is dynamic rather static in the Estonian sample. Despite the fact that the order may be changed depending on various variables (e.g. number of the members in the fund, the location of the venture etc) the following is the best describes the investment activity commonly followed by the Estonian VCs;

- screening,
- evaluation,
- team meeting,
- final evaluation voting,
- investing.

The investment criteria. When evaluating investment proposals, Estonian venture capitalists asign relatively high importance to the following criteria; 1) vision, motivation and commitment level of the entrepreneur-as the characteristics of the entrepreneurs personality. 2) Track record and management/leadership skills were seen dominant in – entrepreneurs experience category. 3) Size of the market and its growth potential are considered as strong criteria in – market criteria cateogry. 4). Product potential to scale up and early traction is domiant in - product characteristics. 5) Return on investment and liquidity on investment as – financial characteristics. 6) VC specific factors, team collaboration, timing. gut feeling, sufficient founder equity were identified as other-Estonian sample specific criteria.

"Team comes first!" - that is the standpoint of the Estonian VCs.

The finding of this study supports the thesis – "human factor is predominant" criteria in the venture capital investment. Overall, Estonian VCs seem to have similar criteria to the rest of the world.

Limitation

It is common for research to have limitation and this study is no exception. The time was one of the limitations which took place during interviews. Venture capitalists are extremely busy thus the author had to speed up the interviews.

Further research

Considering the nature of venture capital the future research could conduct conjoint analysis and trade-off to compare ex-post to ex-ante data found after 5-8 years.

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APPENDICES

Appendix 1. Financial growth cycle paradigm



Source: Berger and Udall (1998, 673), simplified version.

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Appendix 2. Overview of investment criteria identified in past research

Sources: Martel (2006, table 2, 41) Overview of investment criteria identified in past research

Factor	Investment Criteria	Evidence of Criterion's Relevance
Personality of the	 "VC character" 	– Pretest
entrepreneur	 Leadership capabilities 	 MacMillan et al. 1985; Robinson 1987
	- Commitment	 Dixon 1991; Muzyka et al. 1996
Experience of the	 Track record 	– Flynn 1991
entrepreneur	 Technical qualification 	 Shepherd 1999b; Franke et al. 2006
	- Business qualification	 Shepherd 1999b; Franke et al. 2006
Product or service	 Innovativeness 	 MacMillan et al. 1985; Mason & Stark 2002
	 Patentability 	 Tyebjee & Bruno 1984; MacMillan et al. 1985
	 Unique selling proposition 	 Mason & Stark 2002
Market	 Market volume 	 Tyebjee & Bruno 1984; Mason & Stark 2002
characteristics	 Market growth 	 Tyebjee & Bruno 1984; Mason & Stark 2002
	 Market acceptance 	 Tyebjee & Bruno 1984; Mason & Stark 2002
Financial	 Fit to investment strategy 	 Muzyka et al. 1996; Mason & Stark 2002
characteristics	 Return on investment 	 Tyebjee & Bruno 1984; MacMillan et al. 1985
	 Exit possibilities 	 Muzyka et al. 1996; Mason & Stark 2002

Appendix 3. Kollmann and Kuckertz's framework

Source: Kollmann and Kuckertz (2009, Table 1, 27)

Appendix 4. Most discussed VC investment criteria in literature review

Category	Criteria	Description/example	Evidence in literature		
	commitment	entrepreneur is dedicated to the idea	Wells (1974), Muzyka et al. (1996)		
Entrepreneur's personality	general likeability	element of personality VCs have a 'gut feel' for	Visagie (2011), Zinecker, Bolf (2015)		
	relevant track record	e.g. has worked in the same field or similar	Tyebjee, Bruno (1984)Visagie (2011)		
Entrepreneur's experience	management/leaders skills	e.g. has worked as top or mid-level manager	Kaplan (2003), Zinecker, Bolf (2015)		
	technical skills	e.g. accounting, sales, engineering	Wells (1974), Muzyka et al. (1996)		
	scalable	potential to grow faster in short period of time	Martel (2006), Zinecker, Bolf (2015)		
Product characteristics	level of innovation	technological edge	Wells (1974), Zinecker, Bolf (2015)		
	proprietaries	e.g. patents, business secrets, know-how	MacMillan et al. (1987), Timmons et al. (1987)		
	market size	the total value of the market	Wells (1974), Zinecker, Bolf (2015)		
Market characteristics	growth potential	potential to grow over time	MacMillan et al. (1985), Visagie (2011)		
	market acceptance	demand, interest towards the product	Wells (1974), Zinecker, Bolf (2015)		
Einensiel chemostaristics	liquidity	time for cash-out, e.g. early exit possibility	Muzyka et al. (1996), Zinecker, Bolf (2015)		
rmancial characteristics	ROI	return on investment	Poindexter (1976), Zinecker, Bolf (2015)		

Sources: Author. Based Appendix 3,4 and further literature review

Appendix 5. Word cloud



Source: Author, wordcloud.com

Appendix 6. Interview Questions

- 1. How you came into VC industry? What is your background?
- 2. People apply many different meaning to the word "Venture Capitalist" how would you define the term?
- 3. Please share your observations and opinions about Estonian VC ecosystem? *Follow up questions if needed in italics*
 - a. Who are the most influential players in the VC ecosystem?
 - b. What do you think about its past, current and future development?
- 4. Could we talk about your current position and responsibilities?
- 5. Tell me more about the VC firm (where you currently work)
- 6. How would you describe fund's investment strategy?
 - a. Are there any specific startups that you fund?
 - b. Is there any specific industry (ex; ICT, Fintech etc.) you are interested in?
 - *c. what is typical investment size you work with?*
- 7. how would you describe the investment?
 - a. What happens when you get an application?
 - b. Is process structured or flexible?
 - c. What are the stages in the investment process?
 - d. Could you describe each stage?
- 8. how many applications, deals you get per year?
- 9. How many of them do you invest in?
- 10. How many of them returned profit, even if it is even 1 euro?

Investment Criteria

- 11. Can you talk about investment criteria? What factors do you consider when evaluating deals?
 - a. You mentioned <u>Entrepreneur's skills/characteristics</u>. Could you tell me more about this category? Are there any specific characteristics?
 - b. You mentioned <u>Product/Service characteristics</u> could tell me more about that?
 - c. You mentioned <u>Market characteristics</u> could you to tell me more about that?
 - d. You mentioned Financial characteristics could you to tell me more about that
- 12. G, Doriot said "Better invest in A-team with B-plan than in B-team with A-plan" are you familiar with this saying? What is your opinion on that?
 - a. How would you describe an A-team?

Appendix 7. Interview with Andrus Oks - Founding Partner at Tera Ventures

Date: 27.02.2018 Place: Skype Interview length: 35 min.

I: People apply many different definitions to the term "venture capitalists". How would you define it?

Andrus: I think it is uniformly defined by the name (.) Somebody who manages Venture Funds (.) VC fund, however, is structured formal entity, designed with the purpose of investing in startups (.) Usually, these are 10 years old funds however, there may be exceptions too (.)

I: Please talk about Estonian VC industry, its main players and future development (.)

Andrus: Estonian VC industry is still in the somewhat developing stage (.) According to the statistics provided by Startup Estonia, there has been a rapid growth reported during recent years regarding the total investment and funds raised by Estonian startups (.) The industry is evolving rapidly (.) The high growth in the industry mainly is caused by increased number of VCs and increased interest from foreign investors as well (.) It is important to understand that from the beginning there was only one VC fund (.) SmartCap was the only formal fund doing domestic deals here in Estonia (.) Now, when the industry has evolved new VCs are coming to the market (.) Those new VCs firms are; Karma VC, Superangel and others (.)

I: Could you walk me through the concept of SmartCap and Tera VC?

Andrus: Well, SmarCap went through public bids in order to re-organize their portfolio management (.) We as Tera Ventures participated in this bids and won the contract to manage the portfolio (.) However, SmartCap continues to fulfill the role of LP (Limited Partner) (.) Overall, Tera Ventures currently, is managing the direct investment portfolios of AS SmartCap and Estonian Development Fund as well (.)

I: Let's discuss Tera Ventures more in-depth (.) Could you talk about the size of the portfolio?

Andrus: Sure, currently we are managing 12 portfolio companies (.) Total Funds size is approximately 20 million EUR (.) The average size of the investment ticket we work is between 200k and1 million EUR (.)

I: Could you talk about your position and responsibilities in Tera Ventures as well? Andrus: I am one of the founding partners (.) We run it as an equal partnership (.) We all participate in managing our portfolio companies and fundraising (.)

I: What about investment strategy?

Andrus: We do seed stage deals (.) Basically, we want to be first institutional money managing those deals (.) We focus on seed stage (.) We are quite hands on and try to help companies (.) Our region is Estonia, Finland, Denmark, Latvia, Lithuania, Poland, Sweden and the Czech

Republic (.) We do not have a specific industry focus, however, you may say that it is broadly digital industry (.) Overall, we are looking for innovative, disruptive ideas (.) Disruptive ideas can be both; from the perspective of new technologies and also, new business models (.) We are seeking out potential global companies and opportunities (.)

I: Could you describe the investment process (.) Do you use multistage fixed evaluation structure or is it more flexible?

Andrus: We are a relatively small team so, everything is mostly somewhat informal in a sense (.) We do have active discussions all the time (.) Thus, if our team member likes the deal we actively analyze and pursue it as close as possible (.)

I: Please give me general statistics (.) How many applications do you get per year?

Andrus: Currently, we are not in an active investment phase (.) When we were we used to get 400 applications (.)

I: How many of them you invested in?

Andrus: We were quite selective so invested 1-2 per year (.)

I: How many of them return a profit even if its 1 EUR? What is general statistics?

Andrus: Initially we did 24 investments from legacy funds (SmartCap - EDF) (.) So far, we had 9 exists (.)

I: Let's move to investment criteria, could you tell what criteria you base your investment decision on?

Andrus: Keep in mind that we invest in early stage, seed ventures (.) So, we mostly focus on founders; what is their commitment level, what is their background, what is their vision (.) We try to see if this is something which we also believe in (.) If we can be helpful for them to actually build, scale up the company (.) That is where the most of analyses time is spent when we evaluate startup deals (.)

I: You mentioned founders background and other founder related characteristics (.) Could we talk more about that? Are there some other things you look for about Entrepreneurs? Andrus: For instance, we look their background, are they actually coming from the industry or not (.) Actually, we try to balance the portfolio by investing in first-time and Serial entrepreneurs (.) Moreover, we try to keep a balance by investing in the founders have the industry background and we try to do the same number of deals with the founders which do not have the industry background (.) Entrepreneurs which come from the industry logically, have more chance to reach success (.) However, there are many examples which show that entrepreneurs which are newcomers and are not bound to the status quo of the field are more creative in disrupting industries and may have larger success. Obviously, they should really be able to provide real valid, first principles based argumentation (.) Why they decided to take this certain approach (.) And why this will work better than the existing solution of the problem (.)

I: G, Doriot said "Better invest in A-team with B-plan than in B-team with A-plan" are you familiar with this saying? What is your opinion on that?

Andrus: It is very easy to agree to (.) I mean there are many ways to support this idea (.) Well, there are very few startups that do not pivot (.) The eventual success will be usually very

different; I mean the business model, in the end, will usually be very different from the model which they started from (.) Thus, it is not a question how good initial plan is, it is the people and how well they can react on market feedback, adapt to its needs, build the idea and scale the company (.) Thus, of course, the team is the most important criteria (.)

I: Can you describe what is an A-team for you?

Andrus: The team which has the ability to grow the startup to a global company (.) Apart from raw intellect, they should have both, ambition and ability to actually do so (.) The truth is that our region_Estonia is still in early stage of development and we do not have the luxury of investing in serial entrepreneurs (.) Obviously, we do target serial entrepreneurs also (.) I mean, obviously previous startup experience is a big advantage; someone who has previously founded startup and managed to scale it up to international level has hyper-growth experience etc. (.) But, as a region which still is in the development stage, we do not have that luxury of investing in first-time entrepreneurs (.) Moreover, as I said before it has been shown that there are cases when first-time entrepreneurs have much larger success (.) In either of cases, the learning skill and speed are essential and that is what we try to establish as well (.) Collaboration within the team is also very important (.) As for team structure, statistically startups with single founders are slower in development, they are not necessarily worst but they are slower than startups with founding teams (.) I personally like startups with balanced teams (.)

I: Some VCs named product characteristics (such as patentability, scalability), Market characteristics (Its growth potential) and financial characteristics (expected rate of return etc.) as important investment criteria (.) What is your opinion on that?

Andrus: We focus on seed stage therefore, it doesn't allow us to be that selective towards the product, market or financial characteristics (.) Well, generally in the seed there is a product vision or prototype (.) Well, we do seek for market validation (.) For example, idea or product may be great but too early for the market (.) Overall, we do take the product, market characteristics into consideration but, they are less essential compared to the entrepreneurs (...)

Appendix 8. Interview with Riivo Anton - Founding Partner at United Angels

Date: 22.03.2018 Place: Tallinn University of Technology Interview length: 50 min.

I: Could you tell me about yourself and your background? How you came into the VC industry?

Riivo: My first degree was in Public Administration (.) Later, I started to think that maybe public sector was not exactly good fit for me and I started wondering what would be good way forward with such an education in the business world (.) And in 2000 we founded a company which was providing consulting for, rather a small technology company in financing (.) Now, this company still exists and we employee around 240 employees.

I: How is it called?

Riivo: Civitta (.) Yes, I am the original founder of Civitta (.) And then yeah... Basically, it is the only place where I have ever worked (.) What I mean is that I have not worked for some big corporation or, employer other than myself (.) Later, when the company grew bigger and became let's say, more corporate (.) I felt that I should do something else as well (.) Well, I am still with Civitta but now more in advisor role and shareholder but, 6 to 7 years ago I started doing the Angel Investments (.) At first, we bought some traditional companies out of bankruptcy and tried to turn around, well, maybe not particularly successfully (.) Eventually, I got stacked with Tech investments.

I: People apply many different meaning to the term "Venture Capitalists" how would you define it?

Riivo: First of all, Venture Capitalist is a person dealing with venture funds (.) As for Venture Capital, it is a certain type of investment (.) More or less, all capital investment instruments in the world are the same at some point and they are adjusted by the risk (.) For example, Bonds usually have low risk and low return when opposite is true for venture investments (.) Venture Capital usually, is described with higher returns and higher risk (.) Despite the facts that I have made multiple investments in startups, I like to think about myself as an entrepreneur (.) Overall, I have made 13 investments, had 2 exists, 1 write-off and rest companies are still developing (.) We always have invested as entrepreneurs in the sense that, we tried to help founders with things which we knew and that is probably how it started.

I: Could you share your opinion about Estonian VC industry, its key players, and future development?

Riivo: Yeah(.) I think you can look at this like pipeline (.) So first of all, there is an idea (.) So I think if we draw a chart (.) It looks like this:



Source: Riivo: Anton (2018) Recreation of the original drawing.

So first is an idea (.) So, here we have like; Tehnopol, Ajujaht and other similar organizations (.) Ajujaht for example: is the largest competition of entrepreneurs in Estonia (.) Then Pre-Seed Is mainly covered by Angels and if you look at EstBan (Estonian Business Angels Network) there are lots of members but. (.) Let's say out of those, around 25 are active Angels (.) Then, here at Seed Stage, we have; Superangel, Trind Ventures, Tera VC and us; United Angels (.) Then, for later stages, there is Karma VC (.) However, those rounds are not fixed and all those funds may invest in Late Seed and Karma also may invest in Seed stage so, basically they may switch (.) It is also interesting to see how it developed over time (.) What happened is that almost all people behind those funds, well, except, Tera and Karma probably, are Business Angels (.) So, they used to invest their own money so, not other peoples' money (.) Thus, those Business Angels (.) Basically, what happened is that there are just the same people but now they have more money, because, they have funds now (.) Therefore, I think that now, Estonian VC money can support an idea for the longer way (.) What I mean is that in the past before funds came, let's say; if Estonian startups wanted more money, more than Estonian Angels could provide they had to do fundraising abroad (.) Now, when we have all those funds, Startups may move until an A-Round easily with Estonian money (.) That probably is kind of, recent developments (.)

I: Could you talk about your position (or positions) and responsibilities?

Riivo: My main activity right now is related to United Angels (.) I am Fund Manager at United Angels and this is my somewhat everyday job (.) The fund is established by me, with two partners (.) At Civitta I am performing more advisor role (.) Furthermore, I am a member of the board of the different companies: Innopolis Insenerid OÜ, Tapvei Estonia and WERROWOOL and others.

I: Let's talk about United Angels more in-depth (.) You mentioned there are 2 more founders could you name them?

Riivo: So, overall the fund was founded by 3 persons (.) Thus, me, Gerri Kodres and Indrek Kasela (.) The fund was established in 2017 with 16 million as an initial Capital (.) The fund is relatively small with just 3 members or employees (.) So far, we have done 2 investments however, they are not announced yet (.) In addition, there are 3 more on the way and I think, by the end of the next month we will have 5 companies in our portfolio (.)

I: Could you tell me how United Angels funds were accumulated? Are there any third parties?

Riivo: Yes, basically it is three of us plus European Investment Fund (.)

I: What is the size of the ticket you write?

Riivo: We do not have the minimum fixed amount (.) However, typically we start with 100 000 EUR: And we could go up to 1.5 million (.) I think that our typical exposure into one project would be somewhere around 700 000 to 800 000 EUR together, with follow up investments (.) The idea is that; we tend to do overall 20 investments from the fund so investment size should be around that range.

I: What about investment strategy? Could you describe United Angels investment focus?

Riivo: First of all, we look at scalable business models, mainly in ICT (.) We are also taking more like B2B angle (.) I sincerely believe that in this part of the world people like to do something useful rather, something fun (laughs) Therefore, I think that B2B solution, SaaS models are stronger here (.) It is also fair to say that those type of investments is capped upside, in a sense that B2B, SaaS startups usually never...Not never but, rarely grow to billions (.) Let's say they usually, reach fifty to hundred million evaluation (.) On the other hand, the downside is capped as well (.) I mean, if you have a client paying for the solution you can always make consulting (Non-scalable advisory/consulting business) out of it (.) Thus, this type of investments is kind of safe play, those companies may never hit enormous valuation but at least, it will almost never be negative value, So, once the product is read, it is somewhat secure vertical (.) We also have like; two limitations (.) Firstly, we are investing in the startups which are somehow connected to Estonia by mandate (.) For example; we will not invest in US-based ventures unless it was founded by Estonian founders or as a subsidiary of Estonian company (,) Secondly, we are co-investment fund (.) Which means that we don't participate in the rounds alone (.) For example; if a startup wants to raise 1 million we can provide 500,000 and rest should be provided by other independent co-investors or funds (.)

In terms of rounds, we are focused more on seed and A-Rounds (.) However, we may consider investing in Pre-Seed as well but, Seed to A-Rounds is our main focus (.)

I: So, you invest only in Estonian startups? What is the reason behind it?

Riivo: Well, there are reasons like; I think it is easier to find companies in here (.) Although there are funds who try to have some kind of a global reach but, I think usually, funds still have some, let's say hot spots, regions where they have more network (.) I think Estonian funds... Even if they don't say it, they actually do the same (.) I mean, let's say if you go in Ireland as Estonian fund, what is your advantage compared to some Irish funds? So yeah, you get the point (.)

I: Could you walk me through investment process? Is there any fixed structure or is it more flexible in a sense?

Riivo: We are 3 members so deal evaluation is more or less informal and flexible (.) We have weekly meetings and we usually check 4 things (.) The most important is founding Team, so, no surprise here (.) Even if they fail if we think that it is a good team we try to finance them again (.) Because, if it is a good team, soon or later they will succeed (.) Then we will need to check the Market, what is the annual growth etc. (.) The Product; how well it works, is it validated by customers and fourth is the terms of the deal (.) We are using software which helps us to analyses all investment opportunities and then we move forward (.) Some of them we will drop, mostly

because they don't meet above-mentioned criteria (.) Some of them we will meet, do some analyses, take feedback from the clients etc., until we decide to invest or not (.)

I: What is the annual number of the applications you get per year?

Riivo: The fund is not a year old yet (.) But, I am guessing we are getting two to three hundred ideas in a year (.) During the evaluation, we are dropping some and following around 100 deals (.) And out of those 100, we are investing approximately in 5 (.)

I: How many of them return profit even if its 1 EUR?

Riivo: From the fund, we did not have any exits yet (.)

I: Let's move to investment criteria, what criteria you base your investment decision on? Riivo: Actually, I made a number of presentations about this. Here is the framework I am using:



Source: Riivo Anton (2018) Recreation of the chart provided during the interview

I: Thank you (.) If you don't mind let's start analyzing each group and let's start with the Team (.) As I see you pointed out "Multiple Founders" as one of the criteria for the team characteristics, could you tell me why?

Riivo: Yes, usually I prefer multiple founders (.) But, I think it is better to have one good founder than many bad (.) It is not fixed criteria but, I think that multiple founders can cover each other's shortcomings better and also from the investor point of view risks are covered better (.) I mean, if some of them decides to leave or some similar reasons (.) However, again it is not hard term for example; "Monese" one of our portfolio companies is founded by single founder (.)

I: Next one what you identified is "Proven track to do extraordinary things" (.) Please tell me more.

Riivo: I like to see if a person has done something extraordinary (.) It may be anything what stands out, for example They even, may be good at swimming or, won some math Olympiad whatever (.) The idea is that, I believe starting a startup and scaling it up is an extraordinary thing and extraordinary things can only be done by extraordinary people (.) I mean the odds are against founders... So I think outliers, people who stand out from the crowd, have better chance to succeed (.)

I: What about "Sufficient Founder Equity"?

Riivo: This is more like technical thing (.) Sometimes early investors are taking away a lot of equity from the company (.) For example; if early investor will take 90 % and founders are left with 10 %, startup most likely will fail (.) Basically, what it means is that; people who are really doing this startup should have a sufficient equity (.) Sometimes it happens that early founder has left the company and still has quarter of the company, that is not a good thing (.)

I: Could you talk about first time and Serial entrepreneurs and share your preference about it?

Riivo: I think that there are pros and cons for both (.) I do not have a strong preference (.) Well I think that newcomers are more energetic more eager to do things (.) The serial ones they have more experience (.) I believe it is pretty equal balance really (.)

I: Let's look at this from the side of industry (.) What about newcomers and entrepreneurs coming from the industry? Any preferences?

Riivo: It is tricky thing I think (.) So, by my own experience as well, closer you are to the industry the more skeptical you can be about new ideas in it so, that is not good thing I think (.) But, then again, if you have good experience and if you have indicated really strong or big gap in the industry it becomes an asset (.) I think it is double-edged sword more or less (.)

I: Great, G, Doriot said "Better invest in A-team with B-plan than in B-team with A-plan" what is your opinion on that?

Riivo: True (.) Well if you have a good idea and bad team... they will mess it up anyways (.) But, if you have good team and bad idea then eventually they will realize that it is a bad idea and do something else or there still is a chance that they will make this bad idea work (.)

I: Okay, you identified team as the dominant criteria (.) What comes next?

Riivo: I think rest is more or less equal (.) Well, maybe Market slightly more (.) I mean it should be a problem looking for a solution type of thing and not solution looking for a problem (.) There are many startups who are in love with their product, but they do not think is it needed or not (.) And they tend to ignore the fact that they do not have clients and think that they going to come and they are missing the point; maybe it is the product which the market does not need (.) So, I think Market validation and Market trends needs to really be supportive to the product (.) There is also some KPIs which are considered. (.) The first one really is defined by the fund (.) I mean some of them are only looking into FinTech so, if it is not FinTech they would not invest at all (.) For us it will be something like; if the deal is not from ICT or scalable business model we would not be interested (.) Then you need to see if there is some sort of early revenue (.) So, basically an early market or product validation (.) And (.) if the business model is scalable (.) And if the industry experts also think that this is a good idea (.) You can also look at the growth rate of the market (.) For example; I try to check what is the CAGR that is the growth rate of the Market for a year (.) So, I think, deal should have CAGR around 30% per year then it is a good, fast developing Market (.)

I: Okay, in your framework you pointed out "Addressable market" please tell me more about this sub-criterion (.)

Riivo: That is defined as; what could be maximum size of the Market (.) And yes, it should be more than 100 million EUR:

I: We covered CAGR... What about "#1 position in niche achievable"?

Riivo: It is also maybe not hard criteria (.) But it basically describes or, tries to evaluate if the company could be the global leader of that specific niche.

I: So, how you validate that? how you manage to answer that question?

Riivo: I mean (.) It is a bet; it is whether you believe it or not (.) So, you just ask yourself this question and you answer yes or no (.) I mean investing in ventures probably is in between; science and art I think (.) I mean if you look at the number probably you should not invest, you should not become entrepreneur and so on (.) Well if you want to go for a safe bet you should probably go work for a government (.)

I: In the next "business-product" criteria group everything is clear (.) Would you like to add something? For example, some sources suggest that product patentability/competitive advantage as something to look at (.) What is your opinion on that?

Riivo: Yeah... I think it really depends on the market (.) If you go really into Tech, then sure you should have something protectable or that could be kept as a secret (.) If you go to web services it is more like; execution play (.) Basically, who does this simple thing better... Just to give an example; 10 or 12 years ago my friend lived in Australia and there were at list 10 peer-to-peer money exchanges, basically solutions like TransferWise... I mean I could name at least 10 (.) Because that times my friend needed Estonian Crowns and I needed Australian dollars or something like that (.) The point is, we did this peer-to-peer exchange quite often (.) And then maybe 5 years ago TransferWise came and somehow became a dominant player, despite the fact that, there was number of players already (.) So, did they had some sort of competitive advantage particularly? I don't think so, but, their execution was far better than others (.) So it's more-less execution play and that emphasizes the fact that you need to validate the team more (.) How good executors are they? are they better than competitors? Those are questions what you need to ask yourself during evaluation.

I: Great, thank you (.) Finally, could you talk about "Terms and Exit" the last group of criteria in your framework?

Riivo: Sure (.) So, first of all, you need to check M&A activity (Mergers and Acquisitions) in the vertical (.) That is like; in the given space how many companies are bought and sold (.) And then you can always... Well not always, but sometimes find some Key figures and indicators such as; how big should the company be to be acquired (.) When you manage to get this figures you can reverse and calculate whole process and worthiness of the deal (.)

Then we have... yeah basically think of the companies that might be interested in buying it (.) Ticket size, I mean is it in the range which you can except (.) Then we have liquidation preferences and syndicated round (.)

I: Thank you very much (.) Could you tell me why you prefer syndicated rounds? what is the logic behind it?

Riivo: Well there are many reasons for that (.) Firstly, you will have more people helping the company (.) Secondly, this is another way of deal flow generation (.) Basically, if you invite somebody in then they will invite you in later (.)

I: Thank you (.) Finally, could you talk about the order of the importance once again and give a short summary of our discussion?

Riivo: I mean... If it was technical, we would not need fund managers (.) Because you can calculate (.) Maybe in the future this maybe the case (.) But, for now, I think you need to take in consideration all those criteria and sort of try to balance each of those criteria with every single case (.) But if I had to name... Let's say the Rule of Thumb... 50-75% is the team (.) Then comes Product, Market and you could say that financial terms are least important criteria (...)