Bachelor Thesis in Accounting and Financial Management

Stockholm School of Economics

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13th of May 2019

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# Voi Technology and Investors' Gut Feel

A case study on how early stage investors are setting aside their usual investment decision making criteria when evaluating an investment opportunity in a potentially disruptive start-up

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#### **Abstract**

This thesis investigates early stage investors' investment decision making criteria when evaluating investment opportunities in potentially disruptive start-ups. The method chosen was a single case study with 5 interviews with investors in the e-scooter sharing company Voi Technology. We found that our interviewed investors' general investment decision criteria were both financial and non-financial, as presented in our frameworks by S. Paul et al. (2007) and Klonowski (2010). It was also discovered that investors in the seed stage neglected their general investment decision criteria and relied mostly on non-financial criteria, gut feel and intuition. This discrepancy is explained by a shifted approach towards risk due to emotional attachment to the entrepreneur, lack of accounting data and the belief that Voi Technology is on a disruptive path. This thesis suggests that the frameworks presented in S. Paul et al. (2007) and Klonowski (2010), are not applicable in the seed stage of financing and only to a limited extent in series-A stage, when investors evaluate potentially disruptive start-ups.

**Keywords:** Angel investors, Disruptive innovation, Investment decision criteria, Early stage investments, Venture capital

**Acknowledgements:** We would like to thank all the interviewees for sharing their knowledge and taking their time to answer our questions, which has made this thesis possible. We also want to sincerely thank our tutoring group for their most helpful and inspirational feedback. Finally, we want to thank our tutor, Marek Reuter, for taking the time to help us whenever we needed, even during his skiing vacation in the Alps.

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### 1. Introduction

E-scooter sharing is a last mile mobility service that started to appear on the West coast of the United States early 2017. The two companies Lime and Bird were start-ups with the idea to ease short distance traveling, so called last mile mobility, by offering electric scooters which the customer activates through a smart phone application. Bird first launched its scooters in California in September 2017 and had within a year expanded their operations to over 100 cities, facilitated over 10 million rides and received abnormal amounts of funding (KPMG, 2018). As of this writing, Bird had become the fastest start-up to receive a \$2bn valuation. (The Verge, 2018)

The first European e-scooter sharing company, Voi Technology, launched its service in August 2018 in Stockholm, Sweden. Within eight months they had one million users and grown to 21 different cities in nine different European countries (Voi Technology, 2019). This explosive expansion was quickly documented by venture capital firms and business angel investors across Europe and the interest for potential investments arose. Was Voi Technology paving the way for an alternative to taxis, cars and buses in European cities, and potentially disrupting the market for last mile mobility? The criteria for being regarded as a potentially disruptive company, according to Bower & Christensen (1995) were seemingly fulfilled. Despite the supposedly remarkable business opportunity, one major issue existed: Accounting data in Voi Technology were absent due to its young age and accounting data for the only similar companies established, US-based e-scooter sharing companies, were inaccessible due to US-regulations. This made a thorough financial evaluation of Voi Technology impossible, as conventional investment decision making criteria included a plethora of financial metrics, complemented with non-financial metrics, such as the team behind the company and their track record (Klonowski, 2010).

As of this writing, Voi Technology has more than 30 investors (Bolagsverket, 2019) and raised some \$83m (Crunchbase, 2019). The question that arises is how investors in Voi Technology have legitimised their use of investment decision criteria since the frameworks in S. Paul et al. (2007) and Klonowski (2010) describes an approach that is dependent on accounting data. The above stated reflections has led us to the following research question:

How do early stage investors' general investment decision criteria deviate, when evaluating investment opportunities in potentially disruptive start-ups where accounting data are absent?

### 1.1. Study Contributions

Previous frameworks for investors' decision making criteria in early stage investments, such as those discussed in S.Paul et. al (2007) and Klonowski (2010), thoroughly guides the reader through how the investment process is carried out by business angels and venture capital investors respectively. Furthermore, the framework declares what criteria these investors use in their investment decision making, including financial metrics such as various unit economics and traditional accounting based key ratios as well as non-financial metrics such as the strength of the team and their track record. However, the presented frameworks do not encapture how investors' decision criteria change when accounting data are absent and when the investment object is a potentially disruptive start-up, which leaves a gap in existing research.

### 1.2. Delimitations

The frameworks presented in S.Paul et al. (2007) and Klonowski (2010) describe the whole investment process, from the time the investors receive an investment proposal, to the time the investors make their exit. Since the latter part of the frameworks consist of the managing phase and the exit phase, we have chosen to merely focus on the stages prior to when the deal is signed, as that is where the decision making occurs. In addition, we have chosen to study the investment decision criteria used by investors in the investment process, rather than how the investment process itself is carried out.

# 2. Theory

This section will provide a review of earlier research regarding definitions of venture capital and angel investors, the investment process in venture capital firms and for angel investors and finally criteria that affect their decision making and make them to undertake or reject investments. In addition, our theoretical framework describes the role of financial and non-financial criteria in investment decision making processes.

### 2.1. Earlier Research

In previous literature, a distinction is often made between funding by venture capital firms and funding by business angels when describing investment processes, critical decision factors and the role of investors' gut feel prior to investment. A definition of venture capital

firms and business angels will be provided and the investment decision criteria will be described according to the framework presented in Klonowski (2010), who develops a model for the investment process in venture capital firms, and S. Paul et al. (2007) who develops a model for the investment process carried out by business angels.

To be able to explain and analyse whether e-scooter sharing companies are on a disruptive path, the disruptive innovation theory presented in Bower & Christensen (1995) will be explained. Furthermore, this theory will be discussed in relation to modern companies that have had a big impact on its sectors. Any ambiguities with the term "disruptive innovation" is sorted out and a clear definition is provided. Finally, a solid approach to categorize the different applications and types of gut feel as a foundation for making investment decisions, is presented and explained in detail.

### 2.1.1. Venture Capital and Business Angels

Venture capital is a form of equity financing particularly relevant for young companies with innovation and growth potential but untested business models and no track record; it replaces or complements traditional bank finance. The development of the venture capital industry is considered to be an important framework condition to stimulate innovative entrepreneurship (OECD, 2016). From Klonowski (2010) the definition suggests that:

Venture capital involves providing capital to private businesses with an aim to accelerate their development. It is a form of risk-equity investing, where private investors support young firms with a combination of know-how and capital in order to exploit market opportunities. (Klonowski, 2010)

Unlike business angel investors, venture capital firms often manage capital on behalf of others, such as financial institutions, pension funds and wealthy individuals, so called limited partners. Whereas angels are private and often wealthy individuals, seeking to invest their capital to gain positive returns (S. Paul et al. 2007).

#### 2.1.2. Venture Capital Investment Decision Making Process

The ability to identify high potential and innovative firms are of the greatest interest for venture capitalists. However, the investment decision criteria used to evaluate the incipient ventures before funding vary, depending on what type of industry or geographical location the investee firm operates in, for example. (Monika and Sharma, 2015)

Venture capitalists' decision criteria have been facing numerous challenges when trying to identify economic value of a new venture. Choosing criteria has been considered as the most complex part of a decision making process (Mechner, 1989). Several researchers and academicians have examined the venture capital decision making process, such as Tyebjee and Bruno (1984), MacMillan et al. (1987), Sandberg, Schweiger and Hofer (1988), Zacharakis and Meyer (2000) and Zacharakis and Shepherd (2007).

According to Klonowski (2010), venture capitalists attempt to invest in firms that are highly profitable with significant competitive advantage over its rivals, have strong future growth prospects and the strength of gaining a durable market share as well as are led by a superior management team. As a result, such investors avoid investments in firms who operate in highly competitive markets, firms who require significant capital resources as well as minor firms offering commoditised products. The use of decision criteria in early stage investments aims to assure above-average returns while minimising investment risk.

Zacharakis and Meyer (2000) also suggest that a better understanding of the investment process can improve performance of early stage investors.

The venture capital investment process comprises a number of activities that starts with the proposal of a new venture and continues until the exit, where the investors hopefully receive positive returns from its investment (Klonowski 2010). Initial attempts to describe the venture capital investment process were made by Tyebjee and Bruno (1984), who proposed a five-stage investment process model. These stages include: (1) deal origination - identifying potential firm; (2) deal screening - reviewing proposals particularly in technology, product and scope of market; (3) deal evaluation – assessment of a business plan (risk and return); (4) deal structuring – negotiating and mutually establishing a term sheet and (5) post-investment activities – providing value-added activities to the investee firm. This model only broadly described the investment decision making process and the key activities at each stage.

The second attempt to describe the venture capital investment process (shown below in figure 1) investigated the decision making model in more detail. The focus was on venture capitalists' decision whether to invest or not, and the related decision-making criteria. (Klonowski 2010)

The third attempt made by Klonowski (2010) proposes a more comprehensive view of the investment process. Presenting an eight stage model including: (1) deal generation - generating deals through different channels; (2) initial screening - investigating potential investee firm; (3) due diligence phase I and internal feedback - more intense interaction with founders and entrepreneurs; (4) pre-approval completions; (5) due diligence phase II and

internal approval - external consultants gives their view; (6) deal completion - negotiating and mutually establishing a term sheet; (7) monitoring - providing value-added activities to the investee firm and (8) exit - private sale of the company or take it public by an initial public offering.

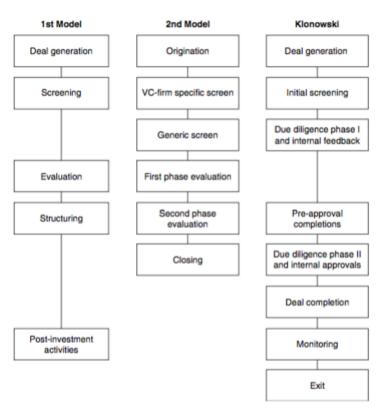


Figure 1 - Development of the Venture Capital Investment Process (Klonowski, 2010)

#### 2.1.3. Business Angel Investment Decision Making Process

Although business angel investments are a common source of funding in early stage start-ups, there are few standardised and elaborate models of the investment processes that precedes investments made by angel investors (S. Paul et al. 2007). Amatucci and Sohl (2004) presented a three stage investment process model which they divided into (1) pre-investment, (2) contract negotiation and (3) post-investment, in order to simplify their examination of entrepreneurs. A more elaborate model was presented by Haines et al. (2003) who argued that eight distinct stages in the model were necessary to describe the process angel investors undergo as they evaluate an investment opportunity. Eight stages were necessary due to the complex nature of balancing risk and rewards, and sometimes relying on non-financial criteria when evaluating investment opportunities, an assessment shared by Shane (2008). Despite the establishment and use of such sophisticated models, the outcome from applying these models for analyses of angel investors, forces a trade-off between accuracy, generality

and simplicity (Weick, 1979), resulting in loss of richness of certain situations or intervening circumstances in the investment decision process. This viewpoint of angel investors' heterogeneity in decision making is shared by research made in several countries, such as the United Kingdom (Mason and Harrison, 1994), Sweden (Landström, 1993) and Australia (Hindle and Wenban, 1999), among others.

With the faultiness of the previously developed models in mind, S. Paul et al. (2007) present a robust model that is able to incorporate key factors in the investment process while still maintaining the generality. Further, it addresses the importance of angels' investment criteria during the process, which may be non-financial or financial and may include devotion to a hobby or simply to increase wealth. The model presented in S.Paul et al. (2007) include five distinct stages, each of which comprises different activities and types of interactions between the business angel and the entrepreneur. The stages are presented as: (1) Familiarization stage, (2) Screening Stage, (3) Bargaining stage, (4) Managing stage and (5) Harvesting stage.

#### 2.1.4. Investors' Gut Feel and the Investment Decision Making Process

Investing in new ventures is associated with extreme uncertainty and unpredictability, and guarantees no financial return or even survival for any given venture. Yet, investors choose to pursue with their investments in risky and unexplored investment opportunities, citing their gut feel as a main factor in their decision to invest (Huang & Pearce, 2015). Investors do knowingly acknowledge that their investment decisions may be seen by others as impulsive and emotional, sometimes lacking rationale (Huang, 2018). This is a prevailing viewpoint in earlier research, where any mentions of gut feel as a source to decision making is treated as an error or noise in the evaluation of an investment opportunity (Hisrich & Jankowicz, 1990). Kahneman & Tversky (2000) suggest that there are two types of psychological processing associated with decisions: "system 1" which is rapid and automatic, and "system 2" which is slower and more profound. System 1 is linked to habitual decision making which is often based on intuition, described as "hot and fast" and therefore leading to less optimal decisions than decisions enforced by system 2. However, more recent studies such as Huang & Pearce (2015) and Wu (2016) acknowledge that that there is a relevant link between an investor's gut feel and the ability to make investment decisions. Huang (2018) pinpoints that merely using system 2 in investment decision making would lead to a form of "analysis paralysis", whereas merely using system 1 in decision making would neglect the fact that decision making in

early stage investment processes do involve analysis. Thus, both of the perspectives are prevalent in investment decisions (Huang 2018).

Investors constantly deal with complex situations by processing and reconciling the multitude of factors of a potential investment opportunity, referring to this ability as their gut feel (Huang & Pearce, 2015). Huang (2018) suggests that a critical factor prior to evaluation of an investment opportunity is the investor's stance on early stage company risk. There are two ways in which investors engage with risk, namely the "control-focused" stance and the "choice-focused" stance (Huang 2018). Investors who hold a control-focused stance on risk tend to pay more attention to how risk can actively be managed, particularly giving consideration to quantifying risk (Holm & Rikhardsson, 2008). Furthermore, they are guided by a feeling of control over the process and rely on their experience as a justification for managing risks. Control-focused investors are also more prone to identify and avoid the investment opportunities that will end up being failures, rather than diversifying and hoping that one of their investments will be the ultimate success. When it comes to forming a baseline for their investment decisions, they follow a "checklist-approach", meaning that their primary source of rationalization is financial data, such as level of revenue, market size and competitor space (Huang, 2018).

The choice-focused stance on risk is more about bearing risk to increase the probability of finding an investment whose return is so great that it will cancel out the losses on the less successful ones. A representational quote for this stance during Huang's (2018) study, was as follows:

Risk is of no consequence if the reward is huge"; "It's like playing poker.[...] I don't care if I lose every hand for stretches of time. As long as I don't miss out on that one big hand. (Huang, 2018).

Thus, choice-focused investors are more worried about missing out on an opportunity that has the potential to become a huge success, rather than minimising the risk of failure. Another typical characteristic for investors who hold a choice-focused stance is that they seem to base their primary source of conviction on their perceptions of the entrepreneur instead of financial data, which Huang (2018) mentions as a "syncopated approach".

### 2.1.5. The Disruptive Innovation Theory

Disruptive innovation is a commonly used term for describing products or services that throws industries into disarray, often implying a change and modernisation of the way the product or service is used in the affected sector. (Christensen et al. 2015)

The theory of disruptive innovations, which was academically introduced the first time in Bower and Christensen (1995), defines the true concept of a disruptive innovation and ascertains what characteristics an innovation needs to have in relation to its market and customers in order to be regarded as disruptive. In Christensen et al. (2015), the disruption theory is reviewed and put in relation to modern companies such as Uber and Netflix, where a clear distinction is made between disruptive innovations and sustaining innovations, two terms that are commonly mixed up. The latter refers to innovations which enhances existing products on the market, such as better TV-screens, a fifth blade on a razor or simply increased efficiency in the market for transportation, such as in the case with Uber.

It is argued that disruptive innovations originate in one of two areas, either in the "low-end foothold" of a market or that it creates a "new-market foothold" (Christensen et al. 2015). Incumbent companies typically focus on their most demanding and profitable customers with improving products, while ignoring the segment that provides lower profitability. New entrants that prove to be disruptive have shown to successfully target those overlooked segments which incumbents choose to ignore or focus less on. The other possible way of disrupting an industry is to get a foothold of a completely new market, where none existed before and thereby convert non-users to users of the product. (Christensen et al. 2015) As pointed out in Bower & Christensen (1995), the performance attributes presented by new disruptive products are not valued by mainstream customers of existing similar products. They rarely use disruptive products in applications where they have previous experience with existing products. Therefore, Bower & Christiansen (1995) suggest that new products mainly attract customers in the lower-end segments in existing markets, alternatively these products create new markets where they are used in new applications and in new settings. To clarify, Christensen et al. (2015) described the entrance of the first minicomputer companies. Minicomputers disrupted the computer industry not merely because they were low end startups when they showed up in the market, nor because they proved to be superior to mainframes in other markets; minicomputers were disruptive because of the path they followed from the lower end of the market to the mainstream market. Disruption is an

evolution of a product or service over time. Thus, speaking of a disruptive innovation as a reference to a product or service at a fixed point in time is misleading and not correct.

#### 2.1.6. Definitions

Below, we will provide important definitions that are needed in order for the reader to correctly comprehend this thesis' theoretical framework, empirical section and analysis.

**Average Revenue Per User (ARPU):** A financial metric. This metric belongs to the group of unit economic metrics.

**Customer Acquisition Cost (CAC):** A financial metric that measures the cost to acquire a customer. This metric belongs to the group of unit economic metrics.

**Customer Retention Rate (CRR):** A financial metric, that measures the portion of customers that are recurring users of a product or service. This metric belongs to the group of unit economic metrics.

**Earnings Before Interest and Taxes (EBITDA) -** A part of the income statement that reflect the company's earnings related to operations. This metric belongs to the group of profitability measures.

**Earnings Before Interest and Taxes (EBIT) -** A part of the income statement that reflect the company's earnings after considering depreciation of fixed assets and amortization of intangible assets. This metric belongs to the group of profitability measures.

**Early Stage Financing:** Defined as the two earliest financing stages, namely the seed and series-A stage. (KPMG, 2018)

**Investment Decision (Making) Process:** The stages, prior to the actual investment in the investment process of an investor, where investment decisions are made.

**Investment Decision (Making) Criteria:** The criteria used to base investment decisions during the investment decision process.

### 2.2. Theoretical Framework

Earlier research on investment decision making processes in early stage ventures is quite extensive, two main frameworks for analyzing the investment decision criteria will be used. The first is presented in S. Paul et al. (2007), and opts to explain the investment decision process that business angels undergo. The second framework is presented in Klonowski

(2010) and is used for analyzing the investment decision process carried out in venture capital firms.

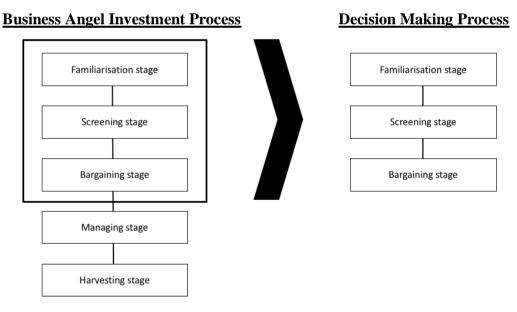
#### 2.2.1. Investment Decision Criteria

Sorenson and Stuart (2001) emphasize that early stage investors, such as venture capitalists and business angels, tend to adjust their investment decision criteria based on type of industry. The weight on different criteria differs from investor to investor, but S. Paul et. al (2007) suggest that business angels tend to place more weight on softer, non-financial, factors than venture capitalists. Klonowski (2010) stated that the initial investment decision process mainly is related to the assessment of two areas: The commercial attractiveness of the investment and the project's "do-ability". Assessment of the attractiveness involves investigating the track record of the entrepreneur and management, the firm's profitability, it's business model and the size of the market as well as the firm's market share and its potential growth. The second assessment relates to the probability of the project being completed.

The main stages in the investment decision process, for venture capitalists and business angels, are the initial screening stage, the due diligence stage as well as the bargaining stage, presented in the frameworks by Klonowski (2010) and S. Paul et al. (2007) (See figure 2 & 3). The theoretical framework of this thesis is therefore focused on all the stages in the investment processes where investment decisions are made. That is, the stages prior to the actual investment (See figure 2 & 3), defined as the investment decision making process. More specifically, the investment decision process is divided in to two decision criteria groups based on how investment decisions are made: financial and non-financial criteria, as suggested by Klonowski (2010) and S. Paul et al. (2007).

### **Venture capital Investment Process Decision Making Process** Deal generation Deal generation Initial screening Initial screening Due diligence phase I and Due diligence phase I and internal feedback internal feedback Pre-approval completions Pre-approval completions Due diligence phase II and Due diligence phase II and internal approvals internal approvals Deal completion Deal completion Monitoring Exit

Figure 2 - The Venture Capital Investment Decision Process (Klonowski, 2010)



**Figure 3** - The Business Angel Investment Decision Process (S. Paul et al. 2007)

The accomplishment of successful decision making is crucial for business angels and venture capital firms' survival given the above-average risk of deal failure seen in the early stage investment scene. Practitioners of venture capital describe the decision making process as a combination of science and art. The prior, which will be further explained under the

subsection Financial Decision Criteria below, relates to a detailed and technical investigation of the market, competition, the investee firm's financial performance and valuation as well as other technical issues. The art, which will be further explained under the subsection Non-financial Decision Criteria below, relates to soft and unquantifiable evaluations in regards to criteria such as team and its composition. The art is also referred to as "venture capitalist intuition", which can be derived from, for example, previous experience. (Klonowski, 2010).

#### Non-financial Decision Criteria

The first part in the evaluation of an investment opportunity often begins with information gathering about the investment opportunity and familiarizing oneself with the entrepreneur. Business angels are seldom pressured to make investments, they rather wait for the right opportunity. (S. Paul et al. 2007) Evaluation of the team and entrepreneur behind the business is of importance by early stage investors. From the perspective of the investors it is equally important for the entrepreneur to present him/herself as presenting the business idea in a compelling way. While the idea may be brilliant, it all boils down to whether the investor and the entrepreneur can work together as investors also make assessments of their own capability of contributing to the business with their expertise. (S. Paul et al. 2007; Klonowski, 2010) A.L Maxwell et al. (2009) argue that the decision by early stage investors whether to invest or not is facilitated by the predominant objectivity in the information exchange between the investor and the entrepreneur. They state that business angels use an elimination by aspectsystem, described in Tversky (1972), to be more efficient in their decision making and also to be able to put more effort in the opportunities with the highest potential. Using this elimination process, business angels focus on finding a reason to reject an investment opportunity rather than looking for key factors they find attractive, reducing the number of opportunities that will demand further consideration. This is contrary to the findings made in Fried and Hisrich (1994), who argued that there were cases where early stage investors were willing to invest due to emotional attachment to the investment proposal, despite several present factors that could be seen as a reason for rejection in the viewpoint of A.L Maxwell et. al (2009).

Many investors' approach the issue of valuation in an intuitive manner, often without the ability to rationalize their thought processes. As described by a business angel in the literature:

There are no real guidelines - you've just got to use your judgement (S. Paul et al. 2007, p117).

Further, both business angels and venture capital firms value the presence of previous investors. As these, to some extent, authenticates the investee firm as an investment. (S. Paul et al 2007; Klonowski 2010). The relationship between the entrepreneur and investor is also considered as a crucial criteria, described by an investor in the literature as follows:

You go through the business plan and say change that, change the other. And if it [the relationship] is going to work, they [the entrepreneurs] will look at it seriously (S. Paul et al. 2007, p116).

The presence of management is the second most important non-financial criteria for early stage investors to consider. It has been proved that success in business increases when the management team have experience, a track record, are educated, have capability in process management, and most importantly - a clear vision. A team is preferred before individual entrepreneurs as a composition of several members more likely can complement each other with different skill sets and capabilities. It is therefore crucial that the team is heterogenous in relation to these areas. Klonowski (2010)

#### **Financial Decision Criteria**

Whether the market or management is more important than the other is a widely discussed subject in relation to early stage investments. Klonowski (2010) suggests that the market criteria should be at the center of the analysis as even the most talented management team will fail in a bad market. A team can be re-composed but it is hard to adjust a market's condition. Consequently, market risk is regarded as the worst enemy to early stage investors. Investments will be avoided if there are significant hesitations about the market and its future potential. Early stage investors seek to invest in firms operating in rapidly growing and sizeable markets with no dominant players and that have limited competition. Therefore, key factors of market analysis include market size and growth rates. Market size, reflects the firm's potential level of revenue, its existing competition and the potential to earn money in the market, whereas growth rates reflect the possibility to increase the investee firm's market share without depriving competitors of their market share. The most common reward for an

increase in market share is an increase in profitability, whilst a decline indicates the opposite. (Klonowski, 2010; S.Paul et al. 2007)

Klonowski (2010) and S. Paul et al. (2007) states that no proper assessment of a firm can be done without paying attention to an analysis of its profitability. An investigation of the firm's profitability gives a basic understanding of the firm's efficiency in generating profitability at the parts of the income statement that reflect the actual operations, namely EBITDA. EBITDA eliminates the impact of accounting and financing decisions and is therefore a proper metric to use for comparison between similar firms in the same industry. EBIT reflects the company's earnings after considering depreciation of fixed assets and amortization of intangible assets, which is a metric to use to understand how fixed assets and acquisitions affect the evaluated company's earnings. Example financial ratios are presented below:

### **Profitability equations:**

$$\frac{EBITDA}{Revenue} = EBITDA \ Margin \tag{1}$$

$$\frac{EBIT}{Revenue} = EBIT \ Margin \tag{2}$$

Liquidity equations:

$$\frac{\textit{Current assets}}{\textit{Current liabilities}} = \textit{Current ratio}$$
 (3)

**Cost coverage equations:** 

$$\frac{EBIT}{Interest\ expense} = Interest\ coverage\ ratio \tag{4}$$

**Asset activity equations:** 

$$\frac{Revenue}{\frac{Assets_{opening\ balance} + Assets_{closing\ balance}}{2}} = Asset\ turnover\ ratio \qquad (5)$$

**Revenue growth:** 

$$\frac{Revenue_t - Revenue_{t-1}}{Revenue_{t-1}} = Revenue \ growth \tag{6}$$

Equations (1) and (2) present two common profitability measures calculated by early stage investors. A financial ratio is a relative magnitude between two selected numericals from the financial statements. Such ratios could for example be liquidity ratios - measuring the business's ability to pay debt obligations; profitability ratios - measuring the business's ability to generate earnings relative to its revenue; and asset activity ratios - measuring the

business's ability to convert different accounts in the balance sheet into cash or revenue. (See equation above). (Klonowski, 2010)

The profitability analysis further includes an analysis of unit economics, projects and clients. Unit economics considers profitability before fixed costs and is therefore fundamental in a breakeven analysis. Another aspect early stage investors look at when evaluating investment opportunities is the investee firm's growth in terms of revenue. Positive growth is necessary to improve a firm's competitive position in the market. The nature of growing a business's revenue lies in a firm's ability to recognize and act upon new sales opportunities. The most sought growth strategy, due to its strong profitability, is when a firm can focus its expansion around its core business, by implementing a growth model that is repeatable and predictable. An example is horizontal growth, involving taking a firm's existing product portfolio offering to new geographical regions. (Klonowski 2010)

### 3. Method

In the following section, the research method and theory behind it will be described and why VOI Technology was the selected case for the study. Furthermore, the data collection process will be explained, including how the interview objects were chosen, the process from first contact to the transcribed interviews and how they have been analysed.

### 3.1. Research Design

To be able to answer our research question of how investors use investment decisions criteria when investing in market disrupting companies, where previous accounting data are not present, a qualitative case study of the e-scooter company Voi Technology has been carried out. This method is preferable in situations when the research question is framed as "how" rather than "is". (Hellström, 2019) Furthermore, a qualitative method is best suited when the authors have limited or no control over behavioral events and when the focus of the study lies on present and not historical phenomenon (Yin, 2014). To better understand our study object and to determine how investment decision criteria are used to decide upon investments, one single case company has been selected. Single case studies are generally a favorable way to stimulate new research, as findings may contradict existing theories that are believed to be general. (Dyer & Wilkins, 1991) On the other hand, new findings may be difficult to generalize due to the limited sample as they have only been observed in one single case study.

Generalization should therefore be treated carefully and rather be treated as a basis for further investigation. (Ryan et al. 2002)

#### 3.1.1. Case Selection

This study is mainly focused on how decision making criteria in investment processes of early stage investors are used, and assisted by gut feel and intuition, when evaluating investment opportunities in potentially disrupting start-ups in new markets. Therefore, a set of selection criteria for the choice of case company was determined. With this in mind, several industries were investigated and our final choice was the e-scooter sharing sector, which is a recently emerged market with companies in the development stage. Initially, these companies lacked accounting data due to their young age, which enforced investors to rely on their gut feel and perceptions of the team and the entrepreneurs behind the specific start-up. After further investigation of the newly emerged market, a sole focus on one e-scooter sharing company, Voi Technology was determined due to accessibility to it's investors.

### 3.2. Data Collection

Our study was initiated with a general interview with an investment manager at Alpha, a public venture capital firm, focusing on investments at the seed stage and series A who also were among the first investors in Voi Technology. This interview gave us knowledge to how their investment process was usually carried out and how it was carried out in Voi Technology. The interview also served as a foundation for further development of our interview questions, which facilitated collection of relevant data during sequent interviews. Furthermore, having interviewed a main investor in Voi Technology gave our research legitimacy which assisted us in finding other investors that were willing to participate in our study. In total, five unique interviews were carried out (See Appendix 1), two of which with business angels and three with venture capital firms. This was made in order to cover all stages of Voi Technology's financing.

Our interviews were semi-structured, meaning that we could ask follow up questions to further explore issues brought up in the conversation (Marginson, 2004). In addition, we started from an interview template and reviewed it prior to each interview in order to cover the relevant areas of our study according to Alvesson (2003) and Hall & Messner (2019). All interviewees were also informed of their anonymity at the beginning of each interview, in order for them to feel more relaxed and provide nuanced and detailed data. Therefore, their

real names have been replaced with fictitious ones from the NATO phonetic alphabet (See Appendix 1).

All participants from venture capital firms were interviewed at their office, except for one, who was interviewed through skype (See Appendix 1). And all business angels were interviewed at suitable locations in Stockholm, except for one who were interviewed through telephone. Each interview was recorded and lasted 30-70 minutes. As the interviews were conducted, one interviewer focused on asking interview question while the other one were taking notes, which made it easier for the interviewer to ask supplementary questions. In this way, discussions were facilitated and the records were later used to ensure a full data collection. This further allowed us to gather all relevant data without making any subjective imprints on the transcription (Ahrne & Svensson, 2015).

### 3.3. Data analysis

Each interview was discussed thoroughly after it had taken place (Hellström, 2015), an emphasis of the discussion was the connection between the literature and the collected data, and what type of analysis that could be made. The analysis started with transcription of the data, which enabled in depth analyses and a better feel for the data as the analysis progressed (O`Dwyer, 2004). The initial division of the interview questions (See Appendix 2), was used as a first step to categorize the transcriptions of the interviews (Ahrne & Svensson, 2015). Relevant quotes from the interviewees regarding investment decision criteria were later coded according to the framework for the investment decision criteria of early stage investors. Based on abductive theory, empirical material was analyzed in parallel with previous research and theories on the early stage funding (Ahrne & Svensson, 2015). This has allowed us to get a deeper understanding of our research question during the course of the study. Due to the broad nature of our research question, it has been necessary to use both empirical data and previous research in order to develop relevant and interesting observations and analyses.

## 4. Empirical Study

This part of the thesis will start with a historical description of our case company Voi Technology. Further will the empirical findings be presented in three segments divided into the different financing stages that have been conducted by Voi Technology to date. First, the seed round of financing will be investigated based on the general investment decision criteria and actual investment decision criteria used by the investors, the same procedure will then be replicated for the series A. In series B, no distinction will be made between general and actual investment decision criteria as the interviewed investor described them as equal.

### 4.1. Voi Technology to Date

It is not an understatement to say that the Stockholm, Sweden, based e-scooter sharing company, Voi Technology's has had an abnormally rapid expansion both geographically and financially since its foundation in June 2018 (Creandum, 2019). To date the company has raised some \$83m (Crunchbase, 2019) with presence in 21 cities in 9 countries (Voi Technology, 2019). We will describe events that have had a substantial impact on the company's financial growth and geographical expansion and how this has affected investors' viewpoint on the company and the sector in general.

The initial idea arose in April 2018 when the public investment company Vostok New Ventures invited an alumni from Stockholm School of Economics, Fredrik Hjelm, to meet start-ups and venture capital firms in Los Angeles, with purpose to get inspired and find new business ideas that could be launched in Europe. Hjelm was invited as he had been an intern at one of their most profitable investments, Avito, in Russia. Soon Hjelm had found a team he could start a company with, an ex entrepreneur, and two students from The Royal Institute of Technology in Stockholm. Soon they had decided upon e-scooter sharing and needed capital to get the business started, which Vostok New ventures supplied them with. (Alpha). In late August, the company had a couple of hundreds of scooters, around 15 employees comprising of ex-employees from Spotify, Snapchat and Bird among others. The company decided to launch its e-scooter sharing service, which almost immediately became popular among both the citizens and the media. (Dagens Industri, 2019)

In October 2018 Voi Technology launched in Zaragoza and Madrid, Spain, which also was their first operations abroad. At the same time the company announced they had had 45,000 users which together had been traveling more than 85,000 kilometres. One month

later, in November 2018, they announced that these numbers had increased to 120,000 users and 350,000 kilometres from a total of some 200,000 rides. (Voi Technology, 2019) They also announced that new capital of some \$50m had been secured from a series A funding round, led by the British venture capital firm Balderton Capital (Tech Crunch, 2018). The capital were spent on buying scooters, hiring staff, software and hardware development and other factors that could contribute to growth (Voi Technology, 2019). Investors comprised of venture capital firms as well as business angels such as Cristina Stenbeck [majority owner of Kinnevik], Jeff Wilke [CEO of Amazon branch] and Justin Mateen [Co-founder of Tinder] among others (Crunchbase, 2019). Later in November they expanded to Malaga, Spain, as well as to their next large city in Sweden, Gothenburg (Voi Technology, 2019).

In December 2018, authorities in Madrid decided to remove all e-scooters from its streets due to a collision accident caused by a customer of one of the three e-scooter sharing companies active in Madrid at the time (Fortune, 2019). At the same time, Voi Technology launched in Malmö, Sweden, Lisbon, Portugal and Paris, France (Voi Technology, 2019).

From January to February 2019, the company launched in four new cities including Copenhagen in Denmark, Lund in Sweden, Lyon in France and Faro in Portugal (Voi Technology, 2019) as well as re-launching in Madrid as the company regained approval of operations (El Pais, 2019). Voi Technology had since its start had put a key focus on regulation and collaboration and had now been successfully cooperating with its cities over a considerable amount of time (Creandum, 2019). By the time, Voi had grown to some 100 full-time employees (Voi Technology, 2019) and managed to recruit from competitors as well as from other global tech giants such as Uber, Cabify, Google, Spotify and from one of the leading global consulting firms, Boston Consulting Group. Voi had become the leader on the European market, growing faster than its competitors with strong internal knowledge base and with good relationships to its cities regulators. (Creandum, 2019)

The key to Voi Technology's success is working in partnerships with cities. (Hjelm, F. Crunchbase, 2019)

In March 2019, the third capital injection was announced, constituting of \$30m. This time the investors consisted of previous venture capital firms such as Vostok New Ventures and Balderton Capital as well as new ones such as Creandum and Project A. The round would be used to expand the company's services, beef up its team and invest more in research and development. (Crunchbase, 2019)

At the same time, Voi reached the milestone of one million rides. The geographical expansion continued to Uppsala in Sweden, Oslo in Norway, Helsinki in Finland and the company became the first e-scooter sharing company to enter the German market as they got permission to launch their service in an enclosed movie park area. (Voi Technology, 2019)

From April to mid-May 2019, when this thesis was written, Voi Technology launched in Aarhus in Denmark, Linz in Austria, Marseille in France, as well as in Lübeck in Germany (Voi Technology, 2019). The company got entitled to operate by the mayor in Lübeck, which was the first city in Germany to accept an e-scooter sharing platform (In-Online, 2019). Lübeck constituted for the company's 21st city in their ninth country. Voi had now a total of more than 1 million registered users. (Voi Technology, 2019)

### 4.2. Seed Stage - Lack of Accounting Data

Voi Technology's seed stage funding was announced on August 13, 2018, amounting to \$2.9m, with Vostok New Ventures being the lead investor, followed by two angel investors (Crunchbase, 2019). The empirical findings below originate from two different seed stage investors in Voi Technology, called Alpha and Bravo.

#### 4.2.1. General Decision Criteria: Intuition and Unit Economics

In most investment cases, Alpha used some type of financial forecasting despite mainly investing in early stage companies. Common financial measurements included backward revenue discounting and market size estimations, described in the following way:

In practice [before making decisions], you think about financials and try to discount future revenues. For instance, assume that in three years it [the investee firm] has X in revenue and Y in risk, and then you simply discount the cash flows back to date. [...] It is important that the market is potentially large. When we do market estimations, we either do it less detailed by ourselves, or we do it in great detail by hiring consultants. (Alpha)

Other financial metrics that Bravo used in his general investment decision processes were ARPU and CAC, and CRR [For definitions see section 2.1.6.] (Bravo). Cost based metrics used as investment decision criteria included isolation of different cost items in order to see those who moved together with the revenue growth, those who remained constant and those who decreased.

As in many start-ups who seek seed funding, where accounting data and track record is absent, the team and the management of the start-up was viewed as one of the most important factors, described as follows:

Everyone [entrepreneurs] has a pitch and a plan, it is a lot about the team and the entrepreneur(s). [...] The team and their capacity is one of the most important factors [...], they need to have the endurance to go the whole distance. (Alpha)

The previous quote emphasises the importance of non-financial criteria such as perceptions of the entrepreneur and the capacity of the team, when this investor evaluates potential investment opportunities in early stage companies. For Bravo, a clear story and execution plan was imperative when doing early stage investments. He described his view on the investment decision criteria in early stages as follows:

It is very clear how different venture capital oldsters invest, either they crunch numbers or they go with the story and the plan. For instance, one can either start with market size or ask the entrepreneur or the management team on how they plan to penetrate the market and what barriers they perceive. I am more of a story [guy], but like to mix with some numbers. (Bravo)

As the quote illustrates, it seems to be important for this early stage investor to rationalize investments with financial data, besides the main focus of trusting the entrepreneur, the team and their capacity to a full extent. In addition, Bravo described that the knowledge of the investee firm's previous investors could act as a trigger to invest for investors standing on the verge:

Typically, what the [venture capital] funds also look at, is which investors are in [have invested]? [It is like] A bunch of penguins standing on an ice floe, when the first one jumps, everyone follows. (Bravo)

### 4.2.2. Actual Decision Criteria: Gut Feel and Voi Technology

Prior to receiving their initial seed stage funding, Voi Technology mainly consisted of a team and an idea, which was described by an investor as follows:

The more history there are [the company has], the more material is accessible. In Voi's case there was only a presentation [pitch] and an idea. There were not much to take into consideration [accounting data]. (Alpha)

The decision to invest was in Alpha's case based on their perceptions of the entrepreneur and their belief that the entrepreneur could fulfill a crucial part of the pitch, in terms of revenue growth and execution of the company's promised operations. From the interview with Alpha, it was apparent that the financial forecasting prior to investment in Voi Technology was almost absent. Only some estimations about the market and unit economics were used as investment decision criteria, which clearly deviated from Alpha's general way of deciding upon investment opportunities.

Factors that Bravo found appealing and important in the case of Voi Technology was the story behind the foundation of the company and its execution plan, described as follows:

It was the story, I saw that this [e-scooter sharing service] worked in other places [The U.S.], and I knew we needed to be fast in order to succeed in Europe. Thus, the business case was present and it seemed as they [the team behind Voi Technology] had a clear plan of how to build and establish the company [Voi Technology]. (Bravo)

However, despite a compelling story and an appealing business case, there were still some hesitation among these initial investors, much due to the lack of accounting data and track record in Voi Technology. It seemed as if Alpha and Bravo were uncomfortable using unconventional criteria to make investment decisions. As mentioned earlier, their general investment decision criteria used to include financial metrics to validate and justify their investments, besides the non-financial criteria of fully trusting the team behind the company they were about to invest in. The following quote suggests how Bravo was willing to ignore his ground rule of using financial criteria, and instead rely on the entrepreneur, the idea and previous investors:

It was not super clear how they [Voi Technology] would replicate the idea. I was not able to fully apply my standardised [decision] criteria in this case. But I knew that Vostok New Ventures would invest and that they [Voi Technology] had access to more funding. Hence, I put much weight on Fredrik [the entrepreneur] and the idea. The decision making process was to check the team's experience, understand the market and what they [Voi Technology] were about to build. (Bravo)

### 4.3. Series A - Greater Weight on Financial Criteria

Word of mouth between established investors in Europe made the interest in Voi Technology large among venture capital firms and business angels (Delta). This was one of the factors that made it possible for the company to initiate its series A funding round earlier than European start-ups at this stage normally do (KPMG, 2018). The empirical findings below originate from two different Series A stage investors in Voi Technology, called Charlie and Delta.

### 4.3.1 General Decision Criteria: Market and Unit Analysis

The number of well renowned previous investors in combination with the emergence of accounting data had given investors who were less reliant on gut feel and intuition, confidence to evaluate the investment opportunity in Voi Technology. The decision making criteria for investors evaluating whether to invest or not at this stage in Voi Technology were more similar to their general investment decision making criteria when evaluating investment opportunities. One investor described his usual investment decision making criteria as follows:

In the cases I choose to evaluate, there are rarely any balance sheets, I rather use growth accounting. [generally used] Financial metrics are: new user growth, user retention rate, CAC, profitability, seasonality and unit economics such as gross profit per unit. I also try to isolate them to figure out which cost items will grow, decrease or stay constant as they [the investment object] scale their operations. How many units do they need to make it work [become profitable]? Do I think they will succeed? If yes, then I invest. (Delta)

Delta had certain requirements on the decision criteria he used when he evaluated investment opportunities. The existence of accounting data was of importance according to him. Unlike previous investors, he was not willing to merely rely on a team to execute their alleged business plan. Instead, he emphasised the importance of accounting data as a fundamental base for his investment decision making criteria and said that he would not make any investments in companies with no accounting data at all.

Compared to other investors in Voi Technology, his approach seemed more rigorous and detailed. Delta emphasised the importance of unit economics in his decision making process, by the following statement:

[When making investments] I want to see the unit economics. They are the most important metrics when it comes to understanding whether something can become profitable, especially how the costs are divided. (Delta)

Apart from unit economics, investors' decision criteria at this funding stage also included the awareness of previous investors, estimation of the market size and its growth as well as growth scenario analyses for the investee firm. (Charlie) Charlie described his general investment process as follows:

We screen about 10 cases per week [...]. If we decide to proceed after the first screening, we ask the entrepreneurs some questions regarding their opinions on the market [...]. If we believe that it [the case] is still interesting, we incorporate calculations and analyse different scenarios. (Charlie)

### 4.3.2 Actual Decision Criteria: Market analysis and Voi Technology

Also in the series A round, there was a discrepancy between the investors' general decision criteria and those used to evaluate a potential investment in Voi Technology. However, the investors were a bit more weighted towards financial criteria at this stage compared to the previous financing stage. Charlie applied his general investment decision criteria on Voi Technology in the following way:

We had proofs on their weekly revenue, and also knew that the market was not saturated, we could then estimate what Stockholm would generate in terms of revenue and from that what other European cities could generate. However, estimation can be made regardless of investment case, so then you fall back on the founders and the team. [...] This was a bet on the team. (Charlie)

It seemed as if team was seen as a primary factor for Charlie in this funding stage, but financial metrics were still incorporated in his investment decision criteria. Delta stated that the entrepreneurs behind Voi Technology were very capable and that he trusted them in their abilities to achieve the alleged growth. Despite the trust, he expressed his thoughts on investing on merely gut feel and emotional attachment to the investment opportunity as follows:

I would not enter [invest] if there were no numbers [accounting data], even though I know Fredrik [co-founder of Voi Technology] is a very capable entrepreneur [...]. The numbers looked very good, which made me decide to invest. (Delta)

When asked what type of numbers Delta looked at, he mentioned unit economic metrics such as gross profit per scooter, as well as user retention rate and cohort analysis. He seemed to be more interested in the user retention rate and also mentioned that balance sheet key ratios, such as liquidity ratios and asset activity ratios, could be relevant for Voi Technology in the short run since the company is dependent on capital in order scale their operations. However, he did not include these ratios in his decision criteria in the case of Voi Technology.

### 4.4. Series B - No Extraordinary Investment Decision Criteria

Voi Technology's series B funding of \$30m was announced on March 4, 2019 with the venture capital firm Creandum as the lead investor (Crunchbase, 2019). Voi Technology had now been active during 27 weeks with operations in 13 cities in five countries (Voi Technology, 2019). The empirical findings below originate from one Series B stage investor in Voi Technology, called Echo.

### 4.4.1. General Investment Decision Criteria Applied

Echo, an investor participating in this round, described in a structural manner how they applied their general investment decision criteria on Voi Technology and pinpointed that there were no discrepancies or any unusual weight on neither financial nor non-financial decision criteria.

Echo choose to invest in Voi Technology mainly due to the available, accounting data, a proven growth model, its belief to the magnitude of the addressable market and the strong team.

### 4.4.1. Financial Criteria: The Presence of Accounting Data

A significant increase in amount of accounting data, new estimates of the addressable market as well as knowledge about the product and customers usage adoption and behaviour was now available. The decision making process was to a larger extent based on financial criteria. Echo described it as:

[...] when we were deciding whether to invest in Voi or not we looked at number of users, number of rides per day, revenue per scooter and other unit economics as well as total revenue, gross margin and their cash flow. The profitability for the whole firm however, is less of an aspect at this stage. (Echo)

### As of other financial criteria, Echo continued by stating the following:

They [Voi Technology] proved themselves by showing indications of very early engagements, usage adoption and leading commercial traction [for their e-scooter sharing service]. We believe Voi is best positioned [in the competitive landscape]. (Echo)

A comfortable aspect for the investor was that Voi Technology sended out updates regarding all unit economics, revenue, cash flow, number of employees and other accounting data on a weekly basis. Echo described that the existence of this data made it possible for them to get a clearer view of the investment opportunity.

Regarding the risk factors with investing in Voi Technology, Echo pointed at the high capital intensity the company requires, risk of regulations as well as the increasing numbers of competitors. Echo described the key criteria to succeed in the specific market as follows:

The key success factor is speed. [Defined as] Launching in new markets, to be one of the first players, [and get] brand awareness. In order to succeed with this, you need capital to buy hardware [e-scooters]. (Echo)

and pointing it out even further by describing the importance of capital in the competitive landscape:

There are currently 5 native European players. Two US players such as Lime and Bird. These are all trying to be first movers and expand at the same time in multiple cities. If you do this in 10 cities at the same time, the amount of scooters and amount of money to get market share becomes clear. (Echo)

The reason for the large amount of funding in the early stages was due to the characteristics of the market. Defined as a "land grab" market, where several players were looking for big opportunities. (Echo)

### 4.4.2. Non-financial Criteria: The Team and Their Background

Regarding non-financial metrics among the investment decision criteria, Echo described their view as:

We have no standardised list [checklist]. [...] general parameters we always look at: Is it a unique product or service? What is the market opportunity? Team is also very important in early stages, how good they are [the founders], [what] background [they have], are they complementing each other? (Echo)

Emphasizing that the team also is of importance in order to reach success. In Voi Technology specifically, it boiled down to the team's experience:

[...] with an experienced team in operations, public policy and product, coming from Uber, Cabify, Google, Spotify, BCG, Lime and more we are very bullish that Voi continues to be the leader in Europe. (Echo)

Moreover, Echo showed acknowledgement to prior investors. Describing it as some kind of endorsement for themselves to invest as well:

[we are] joining a strong consortium of venture capital firms and angel investors. [...] there are some great investors backing this firm [Voi Technology], and we are thrilled to work with and support Fredrik [co-founder of Voi] and the team over the next years on their mission to revolutionise last mile mobility. (Echo)

## 5. Analysis

In this part of the thesis, an analysis of the empirical findings will take place with the intention to answer our research question. The analysis is structured similar to the theoretical framework and will first address why Voi Technology is seen as potentially market disruptive. Secondly, we will explain the discrepancy between the framework and the empirical findings with the role of gut feel in early stage investments.

# 5.1. Voi Technology - A disruptive company?

Before we can make any analyses of whether the investors in Voi Technology have different investment decision criteria when they evaluate investment opportunities in disruptive companies contra investment opportunities in non-disruptive companies, we need to ascertain why Voi Technology is on a disruptive path. This will be made with the help of Bower & Christensen (1995), who coined the term to be able to describe certain companies who either create new markets or change existing ones.

According to Bower & Christensen (1995), disruptive companies have differentiated strategies when it comes to penetration of markets and establishment of their product or service, compared conventional ways of launching a new product or service. If the disrupting company intends to change an existing market, they target the lower end customer segment of that market, which is often overlooked by incumbent firms who focus on providing their most demanding and profitable customers with new products or new features on existing products. After successfully getting a foothold in the lower segment by providing more suitable products or services at a lower price, disruptive companies tend to move toward the mainstream segment, by delivering the performance that existing companies' customers require. When mainstream customers of incumbent firms start adopting the new product, disruption has occurred.

Applying this theory on Voi Technology, we believe that the company have actually targeted the lower-end foothold of the short distance transportation market, providing a relatively cheap and flexible service for last mile mobility. On the other hand, a complete disruption of the market would mean that the mainstream way of traveling on short distances would be by e-scooter, instead of taxi, bus or any other vehicle used for short distance traveling. While Voi Technology's vision is emission free cities and sustainable transportation methods, we find it difficult to believe that e-scooters would actually replace

efficient and already emission free transportation methods such as subways for example. In either case, from the perspective of the low-end market foothold aspect, discussed in Bower & Christensen (1995), it is too early to determine whether Voi Technology will disrupt the market for short distance transportation, as disruption is a process and not any given state.

If Voi Technology is instead viewed through the perspective of the new market-foothold, as discussed in Christensen (2015), one could argue that the company is disrupting the traditional short distance traveling-sector, by changing the existing way people travel on short distances and simultaneously creating a completely new market in Europe when it comes to e-scooter sharing. As the e-scooter sharing market is emerging, it is still too early to state whether e-scooters will replace the conventional way of traveling on short distances, regardless of foothold perspective, which is a necessary criterion to be able to characterise Voi Technology as a disruptive company. Hence, we believe that the company is potentially disruptive.

### 5.2. Decision Making Assisted by Gut Feel

Having learned about what general investment decision making criteria in early stage investments constitutes of in previous research, an analysis of the financial and non-financial criteria described in literature is going to be compared to the criteria described in the empirical section. The discrepancies will be thoroughly analyzed and explained by the role of gut feel in investment decisions as described by Huang (2018) combined with investors' belief that Voi Technology is on a disruptive path.

### 5.2.1. Seed Stage: Syncopated approach

Investors may use an array of criteria including both financial and non-financial to decide upon the investment at the earliest stage. Common financial criteria between the interview objects include metrics such as market size estimation, market growth, unit economics, and discounting of forecasted cash flows. In relation to literature, this goes well with what is described in Klonowski (2010), who discusses the same types of criteria. S.Paul et al. (2007) also emphasizes that common financial criteria used by early stage investors in their investment decision process is financial projections and market estimations. In relation to what was obtained from the interview with Alpha and Bravo, there is a clear similarity between their general investment decision criteria and the criteria discussed in Klonowski (2010) and S.Paul et al (2007) when it comes to financial metrics, such as unit economics and

revenue forecasting. Non-financial criteria discussed in our framework were also present in the two investors' evaluation of investment opportunities in general. Both Alpha and Bravo pointed out that the team behind the investee firm was an important factor to consider.

The non-financial criteria and subjective factors affecting the decision making in the empirical findings, provide a strong link to the study made by S.Paul et al. (2007) and Fried and Hisrich (1994) as well as Klonowski (2010). As Alpha stated, there were not much to look for in Voi Technology when it came to accounting data or other financial data. He emphasised that it was mainly a pitch and a strong team behind the company at the time he invested. According to S.Paul et al. (2007), the presentation of the business idea and the presentation of the entrepreneur himself is equally important for early stage investors. This underlines the importance of the emotional connection between the investor and the entrepreneur, as seen in our case study of Voi Technology as well.

A discrepancy from investors' general approach, appeared when the two investors were asked about their investment decision making criteria when evaluating Voi Technology. Both Alpha and Bravo tended to some extent neglect their financial decision criteria when investing, by more or less solely relying on non-financial criteria and subjective impressions of the entrepreneur and the team behind Voi Technology, instead of using a combination of both. The discovered discrepancies could be explained by the role of gut feel in investment decisions, discussed by Huang (2018). Voi Technology's seed stage investors' general standpoint towards risk in investments seemed to be what Huang (2018) refers to as a controlfocused stance, meaning they were strictly managing risk by validating hard data such as financial criteria through a checklist approach. As mentioned earlier, objective information and business viability data as a baseline was typical for investors having this stance. Furthermore, financial metrics such as revenue, market size and competitor space formed their key decision criteria when evaluating early stage investment opportunities, which were exactly what Alpha and Bravo were looking for when evaluating investment opportunities in general. Huang (2018) also described an opposite stance on risk, referred to as the choicefocused stance. These investors were less prone to manage risk through hard data and financial criteria. They saw high risk as a necessity to have the chance of "hitting it big" (Huang, 2018). When these investors evaluated investment opportunities they followed a syncopated-approach, forming emotional connections to the entrepreneurs and the investment proposal, which was also mentioned in Fried and Hisrich (1994) and S.Paul et al. (2007).

In the case of Voi Technology, we discovered that Alpha and Bravo, who normally held a control-focused stance on risk and followed a checklist approach when evaluating

investment opportunities, shifted their focus to a choice-focused stance on risk and a syncopated approach to evaluation of the given investment opportunity. As stated in the empirical section (See 4.2.2.), Voi Technology's investors in this stage were dependent on their gut feel and emotional intuition when deciding upon the investment. Alpha and Bravo put much weight on Fredrik Hjelm, one of the entrepreneurs behind Voi Technology and other non-financial criteria such as the rest of the team and the business idea. Their decision making process in this case were mainly about understanding the team's experience and to some extent understand the market. The neglection of a thorough analysis of the financial criteria such as unit economics, revenue and cost isolation, suggest that these investors diverged from their conventional investment decision criteria when they decided to invest in Voi Technology.

### 5.2.2. Series A: Mixture of Checklist and Syncopated Approach

Following the discussion in S.Paul et al. (2007) and Klonowski (2010), we noticed that investors acted more in accordance with their general investment decision making criteria when providing financing to Voi Technology in the series A stage as opposed to the seed stage. Delta's usual decision making criteria included unit economics, CAC, CRR and cohort analysis, whereas Charlie's general decision making criteria put more weight on market size and potential growth of the investee firm, as discussed by S.Paul et al. (2007) and Klonowski (2010). Both Delta and Charlie incorporated non-financial criteria in their general investment decision making process as well, in accordance with the frameworks by S.Paul et al. (2007) and Klonowski (2010). Such investment decision criteria comprised, for these two investors, of the team as well as the confidence arising from the presence of previous investors in Voi Technology.

While Delta believed in the team of Voi Technology and their capabilities to execute their intended plan, he emphasised that he would not invest if there were no accounting or financial data to take into consideration. He stuck with his conventional decision making criteria, but still had the team in Voi Technology and their capabilities in mind. Charlie stated that his investment was a bet on the team, but that he also put weight on the financial decision criteria by estimating the potential revenue and its growth that Voi Technology could generate by expanding to new cities.

Overall, we noticed that Delta's decision making criteria when evaluating Voi Technology deviated to some extent from the criteria used in his general investment decision process, which in the case of Voi Technology meant that he put more weight on the team and their capabilities than he usually does. For example, Delta ignored the financial criteria related to balance sheet key ratios although he mentioned that they could be of some relevance in the short-run for Voi Technology. Applying the same reasoning on Charlie, we discovered that he deviated from his usual criteria to a larger extent than Delta, by placing less weight on financial criteria and more weight on the team than what he usually does when investing, by stating that his investment was a bet on the team.

From the theory presented in Huang (2018), this discrepancy can be explained by a small shift from a control-focused stance on risk and a checklist approach to investment decision making criteria, to a choice-focused stance on risk and a syncopated approach to investment decision making criteria. In Charlie's case, this shift was larger than in the case of Delta who almost entirely stuck to a control-focused stance on risk and a checklist approach to the decision making criteria. As stated in Huang (2018), investors having a choice-focused stance on risk were far more concerned with failing to identify a great opportunity than paying attention to risk and probability of loss and seemed to rely on their perceptions of the entrepreneur rather than using financial criteria as a primary grounding for their decision, which seemed to be the case for Charlie as well as for Delta to a limited extent. This shift is further explained by the lack of extensive accounting data and the investors' belief that Voi Technology is on a disruptive path combined with the perceived skill set in the team of Voi Technology.

#### 5.2.3. Series B: Non Peculiar Investment Decision Making Process

As a renowned early stage European investor, Echo had a clear and structural approach towards their evaluations of investment opportunities. A large portion of Echo's decision making criteria were in line with those in S.Paul et al. (2007) and Klonowski (2010). Financial criteria included unit economics such as gross profit per scooter, total revenue, profitability and cash flow. Similar to investors in previous rounds, Echo also put weight on non-financial criteria. These were very much the same as the criteria described in S.Paul et al. (2007) and Klonowski (2010). Once again, the team, their background and track record were regarded as the most important non-financial criteria, as well as how complementing their skill sets were with one another.

Echo emphasised that their decision making criteria used when evaluating Voi Technology was non peculiar, meaning the actual investment decision criteria were the same as their general investment decision criteria. This discovery deviates from the observed trend in previous financing rounds. In the seed stage, investors' general investment decision criteria

largely deviated from their actual decision making criteria used to evaluate Voi Technology, whereas it only deviated to some extent in the series A stage. Unlike investors in previous rounds, Echo fully withheld their control-focused stance when managing risks throughout the investment decision process. They showed a high risk awareness by highlighting risk factors that might hinder the success of Voi Technology, such as regulations and competitors. Furthermore, Echo used a choice-focused approach to decision making criteria when evaluating the investment opportunity in Voi Technology. This meant that they put large weight on financial criteria, such as revenue, market size and growth, revenue and cash flow, as opposed to the syncopated approach which is more focused on non-financial criteria such as team. Echo's approach to investment decision making criteria when evaluating Voi Technology differs from previous investors', as the investment decision making criteria used by previous investors rather are explained by the lack of accounting data, role of gut feel and the belief that Voi Technology will disrupt the market for short distance traveling, also called last mile mobility.

# 6. Conclusion and Summary

Our findings suggest that the investment decision criteria presented in the models by S.Paul et al. (2007) and Klonowski (2010) is coherent with how investors have described their general investment decision making criteria. Key decision criteria used, were similar to those discussed in the framework, both when it came to the financial, and the non-financial criteria, regardless of what funding stage investors were involved in. However, when it came to Voi Technology, we noticed that early stage investors largely diverged from their general investment decision criteria as they shifted their stance on risk and what criteria they evaluated. This discrepancy was most apparent in the seed stage of funding, where investors shifted from a previously control-focused stance on risk to a choice-focused stance on risk; from previously having rigorous risk management to instead knowingly increasing risk in order to increase the chances of "hitting it big" (Huang, 2018). This shift was demonstrated by changing the approach to what criteria to evaluate; from previously relying on both financial and non-financial criteria to merely relying on non-financial criteria such as emotional attachment to the team behind Voi Technology and their capabilities. The findings suggests that the lack of accounting data was a substantial factor behind this shift, together with the belief that Voi Technology is on a disruptive path. Intuition, also known as "the art" of venturing in Klonowski (2010), was largely assisting investors in their decision making. As

intuition was also described as "a congregated experience bank" (Charlie), it is likely that intuition was formed by previous knowledge in how profitable potentially market-disrupting companies have become after being acknowledged as disruptive. This has likely enforced the shift from the control-focused stance on risk to the choice-focused stance on risk in the seed stage of financing, once again making the investors believe that they are about to substantially succeed in their investment, as described in Huang (2018).

Discrepancies between investors' general investment decision making criteria in the series A stage were not equally palpable as in the seed stage, but was still present. Emergence of accounting data in combination with increased confidence, derived from knowing that acknowledged investors such as Vostok New Ventures previously had invested, made potential investors at this stage feel more comfortable in diverging from their conventional decision making criteria. They seemed to rely more on non-financial criteria, such as the team and its track record, as well as on their gut feel and intuition when evaluating whether to invest or not in Voi Technology. However, financial criteria, such as revenue growth and market growth as well as unit economics were still present in this stage of financing, in accordance with S. Paul et al. (2007) and Klonowski (2010), but more skewed towards non-financial metrics with elements of emotional attachment and perceptions of the co-founder, Fredrik Hjelm.

Reviewing the investment decision making process for the investor in series B, we made two important discoveries. The first discovery was that Echo followed their general approach when investing in Voi Technology, without any significant discrepancies in how they weighted the financial and non-financial criteria and without any obvious emotional attachment to the entrepreneur. This was due to the presence of additional and more extensive accounting and financial data as well as the confidence arising from knowing that several other well-renowned investors had previously taken the risk and invested in Voi Technology. The second discovery was that investment decision criteria used by Echo in their general investment settings and in the setting in the case of Voi Technology was in line with the investment decision making criteria presented in S.Paul et al. (2007) and Klonowski (2010).

Our discoveries suggests that our framework, initially intended for seed stage and series A stage of funding, is instead fully applicable in later funding stages such as series B, whereas the framework fails to explain the investment decision making criteria used in Voi technology in the two earlier financing rounds. Thus, the final conclusion is that the framework is invalid to describe the investment decision criteria used in seed and series A stages by investors evaluating investment opportunities in companies whose path is believed

to be disruptive. Rather, the framework should be applied from series B and potentially forward.

## 6.1. Validity and Reliability

A main validity affecting factor is that differentiation between business angels and venture capitalists has not been too extensive. This simplification was made on purpose in order to be able to use our framework as an analytical tool in this specific setting. There are many similarities but also differences, such as how rigorously each investment case is analyzed for example. Thus, there is a potential discrepancy between investors' general investment decision criteria and the criteria discussed in our framework, as the framework is not fully adapted to either business angels or venture capital investments. Instead our focus area is discrepancies between investors' general investment decision criteria and actual investment decision criteria used when evaluating Voi Technology.

Additional factors that have affected the validity of this research and may have allowed us to draw too general conclusions, is the rather limited number of interviews, as well as the investigation of one single case company, as mentioned in the method section. A larger empirical base would, for instance allow us to investigate whether there existed any early stage investors who stuck to their general investment decision criteria when evaluating the investment opportunity in Voi Technology. This potential discovery would have contradicted our conclusion in the sense that investors would not necessarily have deviated from their general investment decision criteria when evaluating investment opportunities in companies they believe are on a disruptive path. This would make the framework in S.Paul et al. (2007) and Klonowski (2010) applicable even on investments in the seed and series A stage, as they are intended to be.

Worth to mention is also that the interviewed investors have wished to be anonymous throughout the course of this study. This has limited the depth of the empirical section and our analysis, as we have not been allowed to disclose all information obtained in the interviews. On the other hand, the anonymisation of the investors have allowed us to have a more nuanced discussion during the interviews, and has on several occasions given us investors' subjective thoughts on Voi Technology, which has resulted in a positive impact on this study.

## 6.2. Future Research

In order to support our conclusion from this study, further research on how the framework presented in S.Paul et al. (2007) and Klonowski (2010) could be applied in later funding stages, such as the series C and series D, which could verify that the framework is applicable in series B and onward. As of this writing, Voi Technology has only completed their series B round, which has made the suggested study impossible to carry out.

Furthermore, a multiple case study of investors' investment decision making criteria when evaluating investment opportunities in potentially disruptive companies could also be of interest to carry through. This would enable the researcher to possibly implement a framework that would apply for the earliest stages of financing in a potentially disruptive start-up. To our knowledge, there exists no framework that integrates the effect from lack of accounting data combined with the disruptive factor belief, which is the reason to why the existing frameworks appear to be invalid when applied to seed and series A stage.

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# 8. Appendix

## 8.1. Appendix 1: Interview Sample

# **APPENDIX TABLE 1 The Interview Context**

| Туре                 | The interviewed | Title              | Date of interview                 | Time of interview |
|----------------------|-----------------|--------------------|-----------------------------------|-------------------|
| Venture capital firm | Alpha           | Investment manager | 26 <sup>th</sup> of February 2019 | 09:15             |
| Business angel       | Bravo           | -                  | 28 <sup>th</sup> of March 2019    | 15:00             |
| Venture capital firm | Charlie         | Partner            | 22 <sup>nd</sup> of March 2019    | 12:00             |
| Business angel       | Delta           | -                  | 5 <sup>th</sup> of March 2019     | 13:00             |
| Venture capital firm | Echo            | Investment manager | 3 <sup>rd</sup> of April 2019     | 15:00             |

## 8.2. Appendix 2: Interview Questions

#### **Formalities**

- Asking if it's okay to record/tape the conversation
- Asking if they accept being quoted

## **Background**

- What is your current position?
- What is your relation to investments?

## **General investment information**

- How many investments in private companies have you/your firm previously done?
- In which stage do you usually invest? For example, Seed, Series-A or later
- Describe how you find potential investment opportunities
- Describe how an investment process is carried through, from first contact to investment
- Do you have standardised processes for doing investments? For example when doing investments in different stages, such as seed, series-A or later.
- If yes is the standardised process differing between the different investment stages, such as seed, series-A or later?

#### Financial and Non-Financial Decision Criteria

- Describe which non-financial criteria you applicate when evaluating a potential investment opportunity
- Describe what purpose these non-financial criteria have for your decision making

- Do you have any minimum requirements regarding non-financial criteria?
- Describe which financial criteria you applicate when evaluating a potential investment opportunity
- If not mentioned earlier Do you applicate financial key ratios such as profitability ratios, liquidity ratios or asset activity ratios?
- Describe what purpose these financial criteria have for your decision making
- Do you have any minimum requirements regarding financial criteria?
- How do you weight financial and non-financial criteria when evaluating a potential investment opportunity? Why?

## Other Decision-Making Criteria

- How do you applicate the financial and non-financial criteria when deciding upon an investment?
- Are there any other factors that might affect the decision-making process, and if so, why? For example, social factors, informal contacts, previous experience, gut feel etc.

## The Investment in Voi Technology

- Describe your involvement in the investment decision process when evaluating whether to invest or not in Voi Technology
- If standardised investment processes existed (see earlier question) which standardised process did you use when deciding upon your investment in Voi?
- Describe which financial criteria you used when evaluating Voi
- Did the financial criteria used in this process differ from your standardised financial criteria? If yes why and how?
- Describe which non-financial criteria you used when evaluating Voi
- Did the non-financial criteria used in this process differ from your standardised non-financial criteria? If yes why and how?
- How did you weight these criteria when evaluating Voi Technology? Why?
- Which risk factors did you see in Voi and how did these affect your decision making?
- Where there any other factors that affected your decision-making process when you evaluated Voi? If yes Why and how?
- When do you expect to exit your position in Voi?
- Do you see the e-scooter product as the final product or do you think the company will expand to new product offering (such as electric bicycles) in the future?

#### The Interview End

- Are there any other issues or aspects you feel we have not covered or that you feel important to mention?
- Do you have any questions to us?