Wisdom of the Crowds in a Market of Lemons
An Evaluation of the Financial Information Quality in Equity Crowdfunding

Niclas Nyström, Fredrik Rhodin

Department of Business Administration
Master’s Programme in Finance &
Master’s Programme in Business Development and Internationalisation
Master’s Thesis in Business Administration II, 15 Credits, Spring 2018
Supervisor: Nils Wåhlin
Thank you!
First and foremost, we would like to express our sincerest gratitude to our thesis supervisor Nils Wåhlin who has supported us throughout the research process with great engagement and helpful insights. The last couple of weeks has been intense and challenging but most of all incredibly interesting and enlightening. We would like to thank each other for being patient and keeping the mood up despite the long days (and nights). We would also like to thank our loved ones and people around us for being encouraging and helping us to get past the finish line. Without you this thesis would not have been possible and for we are very grateful for your support!

May 22 - 2018

Niclas Nyström          Fredrik Rhodin
Abstract
Online equity crowdfunding is a way for entrepreneurs to raise capital that has exploded in popularity in recent years. Information asymmetry and poor investor protection are threats for the long-term legitimacy of equity crowdfunding. In this study we examine the quality of the financial information shared on the crowdfunding platforms, since it is what investors have to rely on when making investment decisions. We evaluate the financial information both quantitatively and qualitatively to assess the quality in terms of accuracy and adequacy. More specifically we examine the financial forecasts primarily with quantitative methods and valuation primarily with qualitative. In total, we examine 22 companies on the Swedish equity crowdfunding platform FundedByMe. The financial forecasts are compared with the outcome from the income statements to find out if they are systematically biased. The results show that the financial forecasts are systematically overestimated. Based on previous research we have suggested two explanations for the overestimations; either overconfidence bias and/or strategic behavior. We also find the information regarding assumptions and methods used in the valuation to be inadequate. We perceive that investors needs higher quality financial information in terms of accuracy and adequacy to make well-formed investment decisions. Our recommendations are therefore to regulate equity crowdfunding further and impose higher demands on information quality. Otherwise equity crowdfunding will possibly end up as a market of “lemons”.
# Table of Contents

1. Introduction .................................................................................................................. 1
   1.1 Problematization ........................................................................................................ 1
   1.2 Research Question .................................................................................................... 5
   1.3 Purpose .................................................................................................................... 5
   1.4 Limitations .............................................................................................................. 6
   1.5 Practical Contributions ............................................................................................ 6

2. Theoretical Method ......................................................................................................... 8
   2.1 Authors’ Background ............................................................................................... 8
   2.2 Philosophical Perspectives ...................................................................................... 8
      2.2.1 Ontology ........................................................................................................ 9
      2.2.2 Epistemology ................................................................................................ 10
      2.2.3 Abductive Approach ...................................................................................... 10
   2.3 Methodology ............................................................................................................. 11
      2.3.1 Sequential Explanatory Research ................................................................ 11
      2.3.2 Mixed Research Methods ............................................................................. 11
      2.3.3 Triangulation ............................................................................................... 12
   2.4 Methodology Critique .............................................................................................. 13
   2.5 Discussion of Methods in Previous Research Studies ............................................ 14
   2.6 Literature Search and Source Criticism .................................................................... 17

3. Theoretical Frame of Reference ...................................................................................... 19
   3.1 Funding .................................................................................................................... 19
      3.1.1 Crowdfunding ............................................................................................... 19
      3.1.2 Two Perspectives - Entrepreneurs/Investors ................................................. 20
   3.2 Financial Information ............................................................................................... 21
      3.2.1 Financial forecasts ....................................................................................... 21
      3.2.2 Valuation of startups ................................................................................. 23
   3.3 Overconfidence Bias ............................................................................................... 24
   3.4 Information Asymmetry ......................................................................................... 26
   3.5 Concluding Remarks ............................................................................................... 27

4. Methodological Point of Departure .............................................................................. 29
   4.1 Implementation ......................................................................................................... 29
      4.1.1 Practical Procedures ....................................................................................... 29
      4.1.2 Binomial Distribution .................................................................................... 31
   4.2 Priority .................................................................................................................... 31
   4.3 Integration ............................................................................................................... 31
      4.3.1 Quantitative Perspective .............................................................................. 32
      4.3.2 Qualitative Perspective .............................................................................. 32
8. Conclusions ................................................................................................................. 60

9. Research Quality .......................................................................................................... 61
   9.1 Judgement Criteria for Quantitative Methods ...................................................... 61
      9.1.1 Reliability .................................................................................................... 61
      9.1.2 Internal Validity .......................................................................................... 62
      9.1.3 External validity .......................................................................................... 63
   9.2 Judgement Criteria for Qualitative Methods ....................................................... 64
      9.2.1 Triangulation ............................................................................................... 64
      9.2.2 Member checking ......................................................................................... 64
      9.2.3 Audit trail ..................................................................................................... 64

10. Ethical Considerations ................................................................................................. 65
    10.1 Qualitative Methods .......................................................................................... 65
    10.2 Quantitative Methods ......................................................................................... 66

Reference List ..................................................................................................................... 68

Appendix 1 .......................................................................................................................... 73

List of Tables, Formula and Appendix

Table 1. Overview of previous research ........................................................................... 16
Table 2. Overview of examined companies ....................................................................... 35
Table 3. Overestimation or underestimation .................................................................... 37
Table 4. Average difference and range of variation ......................................................... 37
Table 5. Detailed difference description .......................................................................... 38
Table 6. Difference between investment rounds .............................................................. 40
Table 7. Revenue growth ................................................................................................. 46

Formula 1. Binomial distribution ....................................................................................... 31

Appendix 1 .......................................................................................................................... 73
1. Introduction

1.1 Problematization

Entrepreneurs are people who have decided to go against the grain and seek fortune by starting their own businesses. They play an important role in society in bringing new innovations to the markets and creating new job opportunities (Cassar, 2004, p. 262-263). Berger and Udell (1998, p. 613) even describe startup companies as a country’s engine of economic growth. Thereby, it is good news that the number of startup companies in Sweden has recently reached record heights (OECD, 2017, p. 18). Moreover, 80% of the population in Sweden perceive that the business climate for entrepreneurship is good, which is a lot higher than the Nordic neighbors and the rest of the world (Braunerhjelm et al., 2017, p. 22). This should mean that the Swedish startups are thriving, right? Not quite, there is a huge obstacle that the Swedish entrepreneurs are struggling with, namely funding (Söderblom & Samuelsson, 2014, p. 66). Entrepreneurs need capital in order to run their businesses (Cassar, 2004, p. 262), which makes the funding gap a big problem. The access to capital is crucial for startups’ growth and survival and the lack of liquidity is among the top reasons for bankruptcy (Statens Offentliga Utredningar, 2018, p. 89).

Entrepreneurs have two main choices when it comes to the funding of their ventures, the company can either issue debt or equity, and in practice these two are used to the same extent (Berger & Udell, 1998, p. 618). In other words, the entrepreneur has the choice of letting go of a fraction of their company in exchange for capital or simply borrowing it. Furthermore, the capital structure, i.e. how the company is financed, is a rather important factor for a start-up’s performance, growth and chances of survival (Cassar, 2004, p. 263). Startup business are risky by nature since they generally have unproven business models, inexperienced management and lack of capital. Sweden is best in class in Europe when it comes to startup survival rates, despite this only 59% of the Swedish startups make it through the first five years of business (Eurostat, 2018).

Startups with their limited history are also the worst in terms of transparency, i.e. to disclose business information to the public (Cassar, 2004, p. 264; Berger & Udell, 1998, p. 622). Furthermore, small businesses do not have the same legal requirements regarding information disclosure and do not have the same amount of media coverage as big firms (Berger & Udell, 1998, p. 616). This implies that people within the company have superior information compared to the outsiders. The problem that occurs when two parties engaged in business with each other do not have access to the same information is a field of research usually referred to as information asymmetry (Akerlof, 1970, p. 489). Entrepreneurs seeking capital from lenders and investors can be discussed through the lens of information asymmetry, where the entrepreneur has insider information that is not shared with people outside the company (Ibrahim, 2015, p. 573-574). Lenders and investors are such outsiders that have an interest in the company but are informationally inferior.

Less information about the startups means higher perceived risk for the investors and lenders, who will demand a higher interest or return on their investment as a result, which in turn leads to higher cost of capital for the entrepreneur (Cassar, 2004, p. 264). The poor transparency leads to expensive external funding and is the reason many entrepreneurs have to rely on internally generated capital more than necessary (Cassar, 2004, p. 264). This could also be one of the main explanations for the previously mentioned funding
gap. Berger and Udell (1998, p. 622) state that very young companies has to rely on insider finance, which they define as funds provided by the founders and their families and friends, and gain access to other financial options as their business grows. Entrepreneurs also have a hard time finding funding due to the general lack of collateral since the balance sheet consists mostly of intangible assets (Berger & Udell, 1998, p. 622-624).

The high risks and uncertainty associated with startups combined with the fact that people in general are risk averse, are some of the main factors holding entrepreneurs back (Blank, 2013, p. 7; Ibrahim, 2015, p. 573). Since the startups are subject to high risk, low transparency and lacking tangible assets (e.g. accounts receivable, inventory and equipment), equity investors such as angel investors and venture capitalists have traditionally been the main source of capital (Berger & Udell, 1998, p. 624). According to modern theory of financial intermediation the existence of venture capitalists and angel investors is partly because of the economies of scale regarding information collection, i.e. that it is more efficient for one institution to invest a lot of time and money to monitor a company instead of many small-scale investors (Berger & Udell, 1998, p. 630).

Crowdfunding is another method to fund startups and means that capital is raised collectively by the public (e.g. Ahlers et al., 2015, p. 955; Mollick, 2014, p. 3). Crowdfunding is not a new phenomenon as most people think, the residents of a small communities raising funds for a new road or a sport club seeking funds are examples of crowdfunding (Statens Offentliga Utredningar, 2018, p. 81). Previously crowdfunding has been a local phenomenon, but technological advancements like the internet has removed the geographical barriers (Statens Offentliga Utredningar, 2018, p. 81, 99). Modern technology has opened the door for crowdfunding as a widespread method of financing (Söderblom & Samuelsson, 2014, p. 30). The first online platforms for crowdfunding arrived in 2005 and the public interest in the phenomenon had a breakthrough after the 2008 financial crisis (Statens Offentliga Utredningar, 2018, p. 84). The increase in public interest in crowdfunding is likely a response to the public's lack of faith in financial institutions combined with the fact that most entrepreneurs had a hard time raising capital during the crisis (Statens Offentliga Utredningar, 2018, p. 84, 101).

Instead of a financial institution as an intermediary as within traditional funding, crowdfunding uses online platforms to match people seeking capital with people having excess capital to lend or invest (e.g. Ahlers et al., 2015, p. 955; Mollick, 2014, p. 2-3). Crowdfunding includes both equity crowdfunding where entrepreneurs offers equity in their business in exchange for money and crowdfunding where entrepreneurs seek to borrow money peer-to-peer. There is also rewards based crowdfunding where investors receive gifts for their money (Mollick, 2014, p. 3) and donation based crowdfunding where the funding is a gift to the entrepreneur (Belleflamme et al., 2014, p. 587). In this study we will focus on the equity crowdfunding. This is due to the fact that the previously mentioned problems of poor transparency and lack of collateral makes equity investments better fit than debt in startups (Berger & Udell, 1998, p. 624).

The popularity of equity crowdfunding has accelerated since 2015 (Statens Offentliga Utredningar, 2018, p. 17). In Sweden crowdfunding is a 122,6 MSEK industry, where equity crowdfunding constitutes 60,8 MSEK (Statens Offentliga Utredningar, 2018, p. 150). The growth of crowdfunding has been very strong in the past and is expected to remain high in the future (Statens Offentliga Utredningar, 2018, p. 150, 169). Even
though crowdfunding is still relatively small source of capital compared to other sources of capital, its recent growth in popularity and lacking insight makes it highly relevant to examine further. The brief history of online equity crowdfunding implies very little is known about the risks and opportunities. The research about equity crowdfunding is also very limited and it is still a nascent field of study (Statens Offentliga Utredningar, 2018, p. 93).

The very first thing practically every entrepreneur does when starting a business is to create a document called a business plan (Blank, 2013, p. 5). The business plan contains information about the opportunity, problem to be solved and the solution, the document usually also includes a five-year forecast for revenue, costs and profits (Blank, 2013, p. 5). The standard procedure for venture capitalists and angel investors is to receive a pitch from the entrepreneur and then decide if they want to engage any further and invest capital (Blank, 2013, p. 4). On equity crowdfunding platforms, entrepreneurs’ business plans are also published to attract investors. But unlike angel investors and venture capitalists, the crowd within equity crowdfunding rarely ever meets the entrepreneur in person. Instead investors on crowdfunding platforms have to rely solely on the information shared on the platform. The level of experience amongst investors on crowdfunding platforms is unknown, although most projects on these platforms receive funding, in contrast with the venture capitalists and angel investors. Venture capitalists and angel investors reject almost all of the entrepreneurs that come to them for capital, only a chosen few are granted capital after intense screening by seasoned professionals.

On the crowdfunding platform it is also stated how much capital the entrepreneur seeks, as well as the amount of equity they offer in exchange. Entrepreneurs sets the price and tries to convince investors that the potential and opportunity is worth more, i.e. the value exceeds the price. The problem is that the quality of these documents varies a lot, making it hard for investors to make sound decisions. Sometimes the business plan reveals how the entrepreneurs came up with this valuation, which makes it easier for investors to evaluate whether or not the assumptions are realistic.

The business plan often includes a financial forecast to let investors know what to expect of future revenue, costs and profit. Blank (2013, p. 5) describes the five-year financial forecasts that are included in most business plans as a complete waste of time. It makes sense to have financial forecasts in big companies with predictable income, but is meaningless to predict future in startup companies due to the number of unknowns they have to face (Blank, 2013, p. 5; Sahlman, 2008, p. 98). Östling stresses the importance that the information shared with the investors is adequate and effective, and that the investors are properly informed about the extraordinary risks involved in equity crowdfunding (Östling, 2016, cited in Statens Offentliga Utredningar, 2018, p. 96). Furthermore the Conference Board (2001, p. 10) state that financial information should be accurate, adequate and timely to be useful for investors. Within equity crowdfunding, the business plan including the financial forecasts are often the only information investors rely on to make investment decisions, therefore the quality of these documents is of utmost importance. Since online equity crowdfunding is a rather new phenomenon, very little is known about the quality of the information exchange on the crowdfunding platforms.

The recent increase in crowdfunding (Statens Offentliga Utredningar, 2018, p. 17) has led the Swedish government to order an evaluation of the situation and the document
SOU 2018:20 was published this spring. The purpose of the evaluation is to get better insight in the crowdfunding market and discuss the matter from a legal perspective (how applicable current laws are to crowdfunding and whether new laws are needed) (Statens Offentliga Utredningar, 2018, p. 15, 77). The reason for this is to improve crowdfunding as a method to raise capital and to make sure it develops in the right direction (Statens Offentliga Utredningar, 2018, p. 15, 77). More specifically, investor protection is pointed out as an important matter to make sure the trust in crowdfunding withstands so that it remains a valid source of capital (Statens Offentliga Utredningar, 2018, p. 15). Another objective of the evaluation is to analyze the role, function and incentives of the parties involved in equity crowdfunding (Statens Offentliga Utredningar, 2018, p. 77). From a legal perspective, three legal parties exist within equity crowdfunding; the entrepreneur seeking capital, the investor supplying the capital and the crowdfunding platform as an intermediary (Statens Offentliga Utredningar, 2018, p. 17). The evaluation concludes that there is a prominent risk for conflicts of interests between these parties (Statens Offentliga Utredningar, 2018, p. 19). Since a large portion of the capital comes from private investors, there is a need for stronger investor protection (Statens Offentliga Utredningar, 2018, p. 19). One risk with suggested changes in law is a decreased number of crowdfunding platforms, although this is outweighed by the increased legitimacy for crowdfunding as a whole (Statens Offentliga Utredningar, 2018, p. 24).

One threat to the legitimacy could be strategic behavior that has been found in previous research (e.g. Lang et al., 2000; Hirst et al. 2008). Financial forecasts are sometimes intentionally overestimated for strategic reasons (Hirst et al., 2008, p. 326). According to Lang et al. (2000, p. 627) small firms are likelier to engage in such unethical behavior since it is harder to detect due to poor transparency. Equity crowdfunding suffers from lacking transparency as we previously stated, and the entrepreneurs do have incentives to overestimate forecasts to attract capital from the investors. Strategic behavior could therefore be present on equity crowdfunding platforms, which could pose a serious threat to the legitimacy of equity crowdfunding.

Within psychology another potential threat to the accuracy of financial forecasts can be found. People have a tendency to overestimate their own ability and be overly optimistic about the future and within psychology there is a whole line of research devoted to the misconception; overconfidence bias (Skala, 2008, p. 38). Entrepreneurs need to believe in their product or service and that they can succeed in order to risk their money, time and effort. Although, research has shown that most entrepreneurs believe in themselves and their odds of survival a little bit too much (e.g. Cooper et al., 1988; Camerer & Lovallo, 1999; Simon & Shrader, 2012; Koellinger et al., 2007). The overconfidence bias has also been linked to financial forecasting, where it has been shown that managers expose themselves to more risk than their actual risk preferences as an effect of overly optimistic financial forecasts (Kahneman & Lovallo, 1993, p. 24).

This could potentially become a problem if the entrepreneurs overconfidence bias leads to overly optimistic financial forecasts that misguides investors to invest money based on false assumptions. In the long run, overly optimistic financial forecasts and valuations based on the projections could ruin investors trust and legitimacy for equity crowdfunding. In turn, the capital could dry up on equity crowdfunding platforms, which would be a shame since it is a unique opportunity to mitigate the funding gap for entrepreneurs. Overconfidence has not been researched in the crowdfunding setting, where we believe that the effect could potentially be devastating. That is why examining
the link between overconfidence and equity crowdfunding would be a relevant research topic which is also pointed out by Mohammadi and Shafi (2018, p. 285).

So far, we have discussed that entrepreneurs are an essential part for a country’s growth, labor market and innovation. The high risks involved in newly born companies makes it hard for entrepreneurs to attract outside capital. A rather new way to seek funding is to reach out to private investors on crowdfunding platforms. Equity crowdfunding is growing in popularity very fast and research has not been able to keep up, leaving a huge research gap to fill. A recent evaluation by the Swedish government suggests that further investor protection is needed. Furthermore, the evaluation implies that the future of crowdfunding is at stake, since it relies heavily on trust to remain legitimacy amongst investors and entrepreneurs. This trust might currently be distorted due to legal gray zones and lacking information.

Investors have to rely on the information provided on the crowdfunding platform to make investment decisions in these highly risky investment opportunities. There is information asymmetry between the parties on equity crowdfunding platforms, since the entrepreneur has an informational advantage compared to the investors. This derives from the fact that the entrepreneurs seeking capital has insight in the daily operations of the business and its finances, unlike the investors that has to rely on the disclosed business information. The investors put their money in the hands of the entrepreneur and will have very limited insight in the company after the investment. Therefore, investors have to trust the entrepreneurs to not act recklessly with the money and abuse the situation.

As previously mentioned, entrepreneurs are suffering from overconfidence bias. This is likely to be reflected in their financial forecasts and valuation of the company. If the information that entrepreneurs share is biased by overly optimistic views of the future, investors would be misled to base their investment decisions on deceitful premises. If the financial forecast are systematically overestimated investors might engage in risks that are way above their risk preferences. This could seriously hurt the trust and legitimacy of crowdfunding.

Again, the trust between investors and entrepreneurs is of utmost importance in order for equity crowdfunding to function properly. The information asymmetry between investors and entrepreneurs combined with the entrepreneurs’ overconfidence bias could potentially hurt this trust. Hence, the long-term success or survival of equity crowdfunding might be dependent on creating a platform where these potential problems are treated properly. Therefore, an important question is whether the information provided by the capital seeking entrepreneurs is accurate and adequate for sound investment decisions.

1.2 Research Question

*How is the quality of financial information on Swedish equity crowdfunding platforms?*

1.3 Purpose

The purpose of the study is to develop a deeper understanding about the quality of financial information provided by entrepreneurs seeking capital on equity crowdfunding platforms. We wish to explore the Swedish equity crowdfunding by assessing the
accuracy and adequacy of the financial information available for investors. There are two key components of the financial information that will be given extra attention, namely financial forecasts and valuation. One objective will also be to seek indicators of whether overconfidence bias and strategic behaviour might be present in crowdfunding and reflected in the financial information. The lack of knowledge and previous research about financial information on crowdfunding platforms suggests an explanatory study. Hence the aim is not to prove anything, merely to seek understanding of the financial information quality in the nascent research topic of equity crowdfunding.

1.4 Limitations

Some limitations will have to be made, primarily because of data availability but also in order to finish the research within the given timeframe. First and foremost, only equity crowdfunding will be examined, ignoring other types of crowdfunding such as crowdlending. We made this limitation since we perceive equity crowdfunding riskier than the other forms of crowdfunding. Another limitation is that only Swedish companies will be included in the study. One reason for this is that the Swedish government is considering intervening in the crowdfunding market by imposing new laws.

Only FundedByMe; Sweden's largest platform for equity crowdfunding will be examined and this is because of data access. The other platforms do not disclose historical financial information from closed projects. Furthermore, only successfully financed companies will be examined, leaving out companies that have applied for capital but been rejected by the investors. This is because unsuccessfully financed projects are not disclosed and besides that it would not be as relevant to inspect since the investors are not misled, which is part of the reason we want to examine equity crowdfunding. Investors rejection of some companies could potentially be an effect of lacking or unrealistic financial information, however it is not within the scope of this study to find out. Moreover, we will only look at companies in where we can find financial forecasts and matching information from income statements. In other words, there has to be overlapping financial measures; financial forecasts made before the period and the actual outcome found in the income statement. In summary, we will examine the financial information of Swedish companies, that has been successfully funded on the equity crowdfunding platform FundedByMe and has overlapping financial forecasts and income statements.

1.5 Practical Contributions

By doing our research, we have expectations to provide practical contributions for legislators, entrepreneurs, investors and crowdfunding platforms. In terms of legislators, the government has decided that an investigation was necessary to advance their understanding about crowdfunding platforms, especially with regards to equity crowdfunding and crowdlending (Finansdepartementet, 2018). The purpose is for instance to create opportunities to support advantageous changes of crowdfunding platforms and to protect investors who make use of these crowdfunding platforms to make investments in business projects (Finansdepartementet, 2018). The people who have been responsible for this investigation believe regulatory requirements about crowdfunding should be described in a new law (Finansdepartementet, 2018).
However, the different types of crowdfunding platforms suggestively increase the complexity of making legislations for crowdfunding platforms because each type of platform has some peculiarities in comparison to the others. In our research, we exclusively investigate equity crowdfunding to identify current problems for these types of crowdfunding platforms and how new legislations could address these problems to protect investors who use these crowdfunding platforms to make investments in (seemingly) interesting business projects. The reason why we emphasize “seemingly interesting” is because the legislation is to some extent about to protect investors, and we make research about to what extent investors could have confidence in entrepreneurs’ financial information about business projects that they provide on the specific crowdfunding platform.

As our research hopefully contribute to better insights and understanding about equity crowdfunding among legislators, we believe our research through these potential legislations will provide insights and understanding for entrepreneurs who want to raise capital through equity crowdfunding. If our research provides legislators with insights and understanding about what current problems are for investors who use equity crowdfunding, entrepreneurs have better chances for changing their current practices to better protect investors who search for investment opportunities through these crowdfunding platforms. In relation to this, crowdfunding platforms will also be provided with better insights and understanding in order to change their services by providing better tools or resources for entrepreneurs to change their practices to better protect investors.

We believe our research about crowdfunding has great news value, especially with regards to equity crowdfunding. If you visit crowdfunding websites, you notice that equity crowdfunding is popular which further emphasize the importance to make research about equity crowdfunding from a practical perspective. In other words, if equity crowdfunding is popular a relatively large number of people could take advantage from our research about equity crowdfunding. The popularity of equity crowdfunding emphasizes the importance to advance people’s knowledge and understanding of equity crowdfunding. If entrepreneurs and investors believe equity crowdfunding is a valuable tool, while the government believes perhaps a new law is needed to regulate these crowdfunding platforms further research is probably necessary to examine problematic aspects of equity crowdfunding.

As well, investors will through our research study be provided with insights and understanding about the quality of the financial information that entrepreneurs provide for them through the crowdfunding platform. In other words, they will hopefully have better understanding about to what extent they could rely on the financial information when they decide whether or not to make investments in business projects on the crowdfunding platform.
2. Theoretical Method

In the following sections, we discuss the philosophical perspectives (ontology, epistemology and methodology), previous research studies, literature search and source criticism.

2.1 Authors’ Background

When conducting research it is important to consider the authors’ background and pre-understanding since the research will be influenced by what the authors know and do not know (Bjereld et al., 2009, s. 14). Bjereld et al. (2009, p. 14) also highlight that this process both encourages the authors to reflect upon their own strengths and shortcomings concerning the research topic and also helps the reader to evaluate the authors’ suitability to conduct the research. For these reasons we have included a brief overview of the authors background.

As authors, we have different backgrounds with regards to theoretical and practical experiences. One of us have been studying business development and internationalization from C-level to Master’s level. He has a great interest in entrepreneurship, where he has recognized the new emerging trend of entrepreneurs who want to raise capital through crowdfunding platforms. As well, he has been doing internship at a business incubator where he further recognized the trouble for entrepreneurs to find investors who are willing to make investments in their business project. He has therefore both theoretical and practical experiences about the need for funding and the use of crowdfunding platforms.

The other author has different theoretical and practical experiences. He has been studying both finance and accounting at an advanced level. As we will examine the available financial information on these crowdfunding platforms, he has great knowledge about how to interpret financials with regards to his finance and accounting background. He has also a great interest in investing, and has been investing actively for the last decade. We believe we complement each other well, as one of us has better knowledge about financial information in these business projects, while the other author has better knowledge about the practical struggles entrepreneurs have.

2.2 Philosophical Perspectives

In regards to the inherent features of financial information, we believe postpositivism is an appropriate paradigm to answer our research question and purpose. In order to choose an appropriate paradigm, Guba and Lincoln (1994, p. 107-108) emphasize the importance to explain your choice in terms of its underlying ontological, epistemological and methodological assumptions. If you do not have coherent viewpoints about these underlying assumptions, your research study might not be credible (Ghauri & Grønhaug, 2010, p. 3-4; Guba & Lincoln, 1994, p. 107-108). There seems to not be clear boundaries between these assumptions (Morgan, 2007, p. 70-73) which justifies further clarifications about how you choose these assumptions.

In the following sections, we therefore explain our choices of ontological, epistemological and methodological assumptions. We assume our ontology is critical realism, our epistemology is objectivism and methodology consist of both quantitative and qualitative methods. In this manner, we hope to increase your understanding of our
choice of postpositivism and its underlying assumptions which are laying the groundwork for our research study.

2.2.1 Ontology
In terms of ontological assumptions, we believe critical realism reflects the inherent features of financial information. It is consistent with our choice of an overall paradigm of postpositivism (Guba & Lincoln, 1994, p. 109-110). In critical realism, people believe there is an existing reality, but they do not have all the necessary capabilities or resources to have a complete understanding of the reality (Guba & Lincoln, 1994, p. 109-110). In further detail, these capabilities or resources are about intellectual deficiencies or intractable properties which causes people to not have a complete understanding of the reality.

If we consider our research question and purpose, we examine entrepreneurs who want to raise capital through an equity crowdfunding platform and investors who search for investment opportunities through the same crowdfunding platform. In order for investors to find interesting investment opportunities, they have to rely on information that entrepreneurs provide on the crowdfunding platform. In that manner, investors rely on information that they believe reflects the true reality, although there might be more intractable information that entrepreneurs do not provide on the crowdfunding platform.

Entrepreneurs might not provide all the information necessary for investors to make reasonable decisions about whether or not to make investments in their business projects. There might be financial information that these entrepreneurs do not choose to or are not required to share with the public, in our case with investors outside the company. For instance, this information might be underlying assumptions for financial forecasts and for valuation of their company. Therefore, investors might not have enough information to have a complete understanding of the business projects because of intractable information about these business projects.

In relation to that relationship between entrepreneurs and investors, critical realism assumes that you do not have direct information channels to the reality (Fleetwood, 2005, p. 198-199). Instead, you have indirect information channels which means that information transfers through mediations (Fleetwood, 2005, p. 198-199). As we have been discussing, investors do not have direct information channels to the companies. Instead, they have to rely on indirect information channels which in our case means financial information that entrepreneurs provide on the crowdfunding platform.

In further detail, critical realism assumes that you do not need proof of entities’ occurrence – for instance, even if you do not observe its occurrence someone else might observe its occurrence (Fleetwood, 2005, p. 198-199). This is consistent with what we have been discussing about indirect information channels because investors do not have the possibility to actually observe what is happening for entrepreneurs, for instance inside their companies. Investors have to believe that someone else might observe its occurrence which they read about in the financial information that entrepreneurs provide on the crowdfunding platform.

In critical realism, they confirm entities as existential through causal efficacy which means that these entities must be an influential force on behaviours (Fleetwood, 2005, p. 198-199). This is consistent with what we have been discussing – for instance if you
consider financial information to be entities, they have an influential force because this is the information investors reads before they decide whether or not to make investments in entrepreneurs’ business projects on the crowdfunding platform. In other words, the financial information has an influential force on investors’ behaviours.

2.2.2 Epistemology

In terms of epistemological assumptions, we believe objectivism reflects the inherent features of financial information. It is consistent with our choice of postpositivism as paradigm (Guba & Lincoln, 1994, p. 109-110). Proponents of postpositivism believe an objectivist perspective is important which to some extent means to consider whether conclusions from current research studies are consistent with previous knowledge (Guba & Lincoln, 1994, p. 109-110). In other words, they are open for falsifications if you have done research and have enough evidence against previous knowledge (Guba & Lincoln, 1994, p. 109-110).

If we consider our research question and purpose, we examine financial information that entrepreneurs provide on the equity crowdfunding platform for investors to read before they decide whether or not to make investments in their business projects. As financial information often has a numeric format, investors do not have to make interpretations to comprehend its content. For instance, investors do not have to make interpretations to know the company’s revenue. Instead, they rely on the financial information that entrepreneurs provide on the crowdfunding platform. In that manner, we assume financial information to have objectivistic features.

In further detail, we examine the quality of financial information that entrepreneurs provide on the equity crowdfunding platform for investors to read before they decide whether or not to make investments in their business projects. In order to examine this, we have to compare the available information on the crowdfunding platform with some objective reference points, known as previous knowledge - in our case the actual outcome in the income statements. If the financial information and the income statements are not corresponding to one another, we falsify the financial information as knowledge.

2.2.3 Abductive Approach

In regards to our research question and purpose we believe an abductive approach is appropriate. An abductive approach emphasizes the importance to examine the research question and purpose from both a theoretical and empirical perspective and combines inductive and deductive perspectives (Ahlberg & Wheeldon, 2012, p. 117). In further detail, quantitative methods have a deductive perspective and qualitative methods have an inductive perspective to answer the research question and purpose (Ahlberg & Wheeldon, 2012, p. 117). A deductive perspective intends to make conclusions with knowledge from existing theories while an inductive perspective means that we are collecting information about what we examine with the purpose to create propositions (Ghauri & Grønhaug, 2010, p. 15-16).

In our research study, we examine equity crowdfunding from existing theories. Some of these theories are specifically about equity crowdfunding while some other theories are from other scientific disciplines. As there is not much available research about equity crowdfunding we have to use some theories from other scientific disciplines. In that manner, we have to some extent a deductive perspective. However, as there is a relatively
small number of companies which we could examine for equity crowdfunding, we do not have enough information to accept or reject hypotheses. Instead, we will try to explain the results we find qualitatively and quantitatively and develop propositions for future researchers to examine in more detail. In that manner, we also have to some extent an inductive perspective.

2.3 Methodology

2.3.1 Sequential Explanatory Research

In terms of methodological assumptions, we believe a sequential explanatory research design reflects the previous inherent features of financial information, more specifically it is consistent with postpositivism, critical realism and objectivism (Guba & Lincoln, 1994, p. 109-110; Johnson et al., 2007, p. 123-124). A sequential explanatory research design means that we initially and mainly use quantitative methods to collect and analyze financial information from entrepreneurs and then qualitative methods to collect and analyze the same financial information from these entrepreneurs (Creswell et al., 2002, p. 223-227).

In regards to our research question and purpose, we conduct research about equity crowdfunding. As we have previously been discussing, equity crowdfunding is an emerging subtype of crowdfunding and there is not much research available about the subject matter. In order to identify a reasonable research question and purpose, we have been reading existing, although limited research about equity crowdfunding, but also existing and more extensive research from other disciplines of business administration to improve the current perspective on equity crowdfunding. When there is not much existing knowledge about a subject matter, quantitative research methods might be inadequate (Edmondson & McManus, 2007, p. 1169-1172).

In that manner, a sequential explanatory research design means that we use qualitative methods to increase our understanding about the initial quantitative results (Creswell et al., 2002, p. 223-227). Even though we have been identifying a seemingly reasonable research question and purpose about the financial information, we do not have enough knowledge to know which aspects of the financial information that are interesting enough to further examine about equity crowdfunding. Therefore, we believe quantitative and qualitative research methods are complementary to one another and a mixture of both methods are appropriate to answer our research question and purpose.

2.3.2 Mixed Research Methods

In terms of mixed methods, we take advantage from qualities of both quantitative and qualitative methods (Creswell, 2014, p. 45-46). In quantitative methods, researchers emphasize the importance of testing existing theories to know if these theories are still correct or should be exchanged for other or newer theories, collection of information that can be quantified in a numeric format and use of statistical methods (Creswell, 2014, p. 45-46). As our research question and purpose are about financial information, we examine numbers which are consistent with quantitative methods that emphasize information that can be quantified in a numeric format. After we have collected the financial information from entrepreneurs, we use statistical methods to indicate interesting aspects of equity crowdfunding.
As we have previously been discussing, equity crowdfunding is an emerging subtype of crowdfunding and there is not much research available about the subject matter. If there is not much existing knowledge about a subject matter, quantitative research methods might be inadequate (Edmondson & McManus, 2007, p. 1169-1172). For instance, quantitative research methods might provide unreliable analysis of statistical relationships because we do not have enough understanding about the subject matter (Edmondson & McManus, 2007, p. 1169-1172). To address this, we use qualitative methods to increase our understanding about the initial quantitative results (Creswell et al., 2002, p. 223-227).

In qualitative methods, researchers emphasize the importance and meaning of the surrounding environment (Creswell, 2014, p. 45-46). By adding qualitative methods to our research study, we believe we are to some extent minimizing the limitations of only using quantitative methods. In our research study, we will use qualitative methods to more in-depth examine the financial information that entrepreneurs provide on the crowdfunding platform. For instance, there might be financial descriptions about the underlying assumptions about how they have made their financial forecasts and valuations of their companies. In that manner, we hopefully support our quantitative results.

In alignment with postpositivism as a paradigm, proponents emphasize the importance to use more qualitative methods in order to a greater extent examine the interactive relationship of what you examine and its surrounding environment and take into account context-specific information which you find from the environment surrounding what you examine (Glaser & Strauss, 1967 – cited in Guba & Lincoln, 1994, p. 109-110; Strauss & Corbin, 1990 – cited in Guba & Lincoln, 1994, p. 109-110). Postpositivism is consistent with research methods that mainly use quantitative methods to collect information about what we examine but together with qualitative methods (Johnson et al., 2007, p. 123-124).

2.3.3 Triangulation
From a methodological point of view, triangulation means that the researcher applies both qualitative research methods and quantitative research methods (Patton, 1999, p. 1193). In this manner, triangulation means to take advantage of both methods in a mutual beneficial way and therefore implies a more comprehensive understanding of the subject matter (Patton, 1999, p. 1993-1994). As we are using both qualitative and quantitative methods, we are applying triangulation as a way to confirm the indicating results which we identify with quantitative methods.

In other words, we use quantitative methods to examine the surface of equity crowdfunding while we use qualitative methods to provide more in-depth evidence about the results we identify with quantitative methods. This is especially important as there is not much research available about equity crowdfunding. If we do not have enough understanding about the subject matter, quantitative research methods might provide unreliable statistical relationships (Edmondson & McManus, 2007, p. 1169-1172). To avoid this, we use a mixture of quantitative and qualitative methods.
2.4 Methodology Critique

In terms of the sequential explanatory research design, we mainly use quantitative methods which are usually assumed to have better generalizability compared to qualitative methods (Maxwell, 1992, p. 293). However, according to Guba and Lincoln (1994, p. 106), there are some disadvantages with quantitative methods. They argue that quantitative methods sometimes emphasize the importance of some specific variables (Guba & Lincoln, 1994, p. 106). For instance, quantitative methods might measure one dependent variable by examining two independent variables while there are other independent variables which are omitted in the research study. Therefore, quantitative methods might not provide the whole picture and therefore decrease its generalizability (only possible to generalize to other simplified situations) (Guba & Lincoln, 1994, p. 106).

In order to counterbalance the simplifications, we use qualitative methods which emphasize the importance and meaning of the surrounding environment (Creswell, 2014, p. 45-46). By using these qualitative methods, we try to provide a broader picture to support the quantitative relationships. However, Lukka and Kasanen (1995, p. 82) further discuss generalizability, but from an accounting perspective which we believe is relevant for our research study because we use both financial information and income statements. They argue that some underlying requirements facilitate generalization in accounting research; 1. theoretical knowledge about the subject matter that researchers collect and analyze information about, 2. there must be previous empirical research studies available about the subject matter, 3. you have to make empirical research about the subject matter and 4. there must be some overlapping characteristics among the companies that you examine.

As we have previously been discussing, there is not much previous research studies and theoretical knowledge available about equity crowdfunding. In relation to these two requirements, our research study has rather low generalizability. But, we make empirical research with both quantitative and qualitative methods and we argue that there are overlapping characteristics between the companies. The companies that we examine have similar number of employees and revenues (see section 4.7). As well, we examine the quality of financial information that entrepreneurs from these companies provide on the crowdfunding platform. Each entrepreneur has the same opportunity to provide the same quality of financial information on the crowdfunding platform. In that manner, we to some extent increase the generalizability to Swedish equity crowdfunding platforms.

Another disadvantage with quantitative methods is that sometimes you might measure quantitative relationships without relevance on the individual basis (Guba & Lincoln, 1994, p. 106). Even though quantitative methods might provide statistical significant relationships, it does not necessarily mean that these relationships are true on the individual basis (Guba & Lincoln, 1994, p. 106). Further, Edmondson and McManus (2007, p. 1169-1172) argue that quantitative methods might provide unreliable statistical relationships when there is not much existing knowledge about a subject matter. Once again, we use qualitative methods to increase our understanding about the initial quantitative relationships (Creswell et al., 2002, p. 223-227). In that manner, we try to increase our understanding on the individual basis as our qualitative methods include case studies.
However, as qualitative methods might include interpretations (Creswell, 2014, p. 45-46), we might (even though we try not) to some extent be subjective when we examine the financial information on the crowdfunding platform. However, as we use qualitative methods to support the quantitative methods, we use quantitative methods to support the qualitative methods by contributing with a more objective perspective. To conclude, we believe the quantitative methods and qualitative methods are complementary to one another. The quantitative methods provide to some extent generalizability while the qualitative methods provide to some extent relevance on the individual basis.

2.5 Discussion of Methods in Previous Research Studies

There is not much available research about crowdfunding, especially not equity crowdfunding which is an emerging subtype of crowdfunding. There are therefore not much previous research studies which could support our choices of methodologies. However, Table 1 shows an overview of previous research studies about crowdfunding, especially equity crowdfunding. These research studies used either quantitative research methods or conceptual research.

In further detail, Ahlers et al. (2015) made an empirical research study about whether obtainable information about possible uncertainties that investors might encounter on the crowdfunding platform change their decisions to make investments in business projects. In order to measure uncertainty, they used for instance the financial documents about financial forecasts that entrepreneurs include for investors on the crowdfunding platform (Ahlers et al., 2015, p. 965-969). In these forecasts, entrepreneurs usually try to make forecasts about EBITDA (earnings before interest, taxes, depreciation and amortization), EBIT (earnings before interest and taxes), net earnings and sales.

In order to include financial forecasts as proxy measurements for uncertainty, they used the statistical tool of a reference category and dummy variables (Ahlers et al., 2015, p. 965-969). The reference category is a proxy for measurement when entrepreneurs make financial forecasts available on the crowdfunding platform. The dummy variables are proxies for measurement when entrepreneurs do not make financial forecasts available on the crowdfunding platform. However, either they have a disclaimer or do not have a disclaimer (Ahlers et al, 2015, p. 969). Overall, the research study used for instance a sample of 104 campaigns, quantitative methods and descriptive statistics (Ahlers et al., 2015).

Vismara (2016) made an empirical research study about regulations for equity crowdfunding and the consequences of equity-retention on the investors’ decisions to make investments in business projects in equity crowdfunding. Equity-retention is a proxy for project quality measured in terms of entrepreneurs’ commitment to make their own investments in the same project that they want to raise capital for with crowdfunding platforms (Vismara, 2016, p. 583). Overall, the research study used for instance a sample of 271 campaigns, quantitative methods and descriptive statistics (Vismara, 2016).

In contrast to the previous mentioned research studies, Agrawal et al. (2014) have to some extent done a conceptual and to some extent speculative research study. They discuss for instance underlying factors of crowdfunding and equity crowdfunding. In further detail, they discuss that entrepreneurs and investors might not always have the same purpose with crowdfunding or equity crowdfunding (Agrawal, et al., 2014, p. 70-74). As well,
Belleflamme et al. (2014, p. 597-600) have done a conceptual research in which they try to understand the consequences of asymmetric information about product quality on both reward crowdfunding and equity crowdfunding.

In terms of our research study, we use a sequential explanatory research design which means that we initially and mainly use quantitative methods and then qualitative methods. As we have been discussing, table 2 shows that previous empirical research studies have only used quantitative methods. However, equity crowdfunding is an emerging subtype of crowdfunding and there is not much research available about the subject matter. If there is not much existing knowledge about a subject matter, quantitative research methods might be inadequate and provide unreliable statistical relationships because we do not have enough understanding about the subject matter (Edmondson & McManus, 2007, p. 1169-1172).

In that manner, we do not believe that only quantitative methods provide a comprehensive understanding about equity crowdfunding. As we examine equity crowdfunding in Sweden, this is especially true because we do not have a large number of business projects to examine. Therefore, our sample is relatively small compared to the previous empirical and quantitative research studies. However, we believe that the current quantitative perspective opens up for a new qualitative perspective. But, the current use of quantitative methods to some extent demonstrates that these methods are appropriate to examine equity crowdfunding which support our choice to mainly use quantitative methods.

If we further consider our research question and purpose, we examine the quality of financial information that entrepreneurs provide on the crowdfunding platform for investors to read before they decide to make investments in the business projects. If we consider the research study made by Ahlers et al. (2015), their methodologies to some extent support the methodologies that we use in our research. For instance, we compare the financial forecasts with the actual outcome in the income statements as a measure for quality of these financial forecasts. In a similar way, Ahlers et al. (2015) use financial forecasts to measure uncertainty.

In further detail, Ahlers et al. (2015, p. 960-961) state the following “We specify the level of uncertainty in the relationship between the equity share offered on the equity crowdfunding platform and the level of detail for the financial projections. The less (precise) the information provided by entrepreneurs, the more restricted potential investors may be in assessing the proposed venture”. In relation to this, we believe that our study about the quality of financial information to some extent is similar to their research study about uncertainty because our measure of quality is both about its accuracy (with quantitative methods) and adequacy of underlying descriptive details (with qualitative methods).
Table 1. Overview of previous research

<table>
<thead>
<tr>
<th>Authors</th>
<th>Subtype of Crowdfunding</th>
<th>Nationality of crowdfunding platform or focus in research study</th>
<th>Type of Research</th>
<th>Type of Method</th>
<th>Final Sample Size (n = quantity)</th>
<th>Results</th>
<th>Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vismara (2016)</td>
<td>Equity-crowdfunding</td>
<td>UK</td>
<td>Empirical</td>
<td>Quantitative</td>
<td>n = 271</td>
<td>Descriptive Statistics, Correlation Matrix, Regression Analysis</td>
<td>See “results” (they seemed to combine results with analysis)</td>
</tr>
<tr>
<td>Agrawal et al. (2014)</td>
<td>Equity-crowdfunding and non-equity crowdfunding</td>
<td>United States</td>
<td>To some extent conceptual and to some extent speculative</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Belleflamme et al. (2014)</td>
<td>Reward-crowdfunding and equity-crowdfunding</td>
<td>n/a</td>
<td>Conceptual</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
</tbody>
</table>
2.6 Literature Search and Source Criticism

In order to find scientific articles and literature for our research study, we have used different databases such as Google Scholar, Umeå University Database and EBSCO. For instance, the search words include crowdfunding, equity crowdfunding, overconfidence bias, information asymmetry and financial forecasts. These search words and many more have been put together in different combinations to find articles which are of relevance to answer our research question and purpose.

To ensure the quality of sources in our research, we have been considering the factors that Umeå University has been describing on their library website. To begin with, one of the factors known as authority takes into account what reputation authors have, whether they are well-thought-of or not (Umeå University, 2016). In our case, we have been considering authority mainly with regards to the number of other researchers who have been referring to the specific research paper. To ensure a degree of scientific legitimacy we have used research with a lot of citations whenever available. In the nascent field of equity crowdfunding research, we have sometimes prioritized more specialized studies over widely accepted but unspecific research.

To further consider authority, we have done research about the authors we are referring to throughout our research study. In that way, we know if they are well-known authors within the subject matter. For instance, to develop our theoretical frame of reference we have been referring to two former Nobel Prize winners, George A. Akerlof (Nobel Media AB, 2014a) and Daniel Kahneman (Nobel Media AB, 2014b). Furthermore, we have been using scientific articles that have been peer-reviewed, which means that other researchers have been controlling the quality of the specific research paper.

Another factor is content, which emphasizes the importance to know whether information might be unbiased or biased and to be aware of what date the information was published (Umeå University, 2016). In our case, we have been considering content by looking into how the research has been done – for instance if they have been receiving funding from some organizations which might increase the risk that the information might be biased. By using peer-reviewed scientific articles, we further decreased the risk for using biased information because other researchers have been controlling the quality of the paper.

As well, we have been considering publication date depending on what we are writing about. For instance, if we were supporting the relevance of our research subject or been writing about emerging theories (e.g. about equity crowdfunding) we have been using newly published information. However, if we were trying to find relevant theoretical framework, we have sometimes been using information from sources with older publication date to have access to the primary source. In that way, we ensure that the information is correct and has not been subject to any unwanted changes during the years.

Another factor is about how thorough information is about the subject matter (Umeå University, 2016). In our case, we have been considering this factor by controlling what the primary purpose of the research paper is about. If the research paper is about the subject matter we are searching information for, then the information is most likely thorough enough to be referring to in our research study. As well, another factor is about reliability which emphasize whether you find similar or contradicting information (Umeå
University, 2016), where we have been controlling if we find similar information in other sources.

Another factor is about the intended audience (Umeå University, 2016). In our case, we have been considering for instance the title of the scientific article and journals of these scientific articles to have better chances to be referring to sources which are written for our subject matter.
3. Theoretical Frame of Reference

The information on equity crowdfunding platforms can be viewed from two perspectives – the entrepreneurs’ who use the information to attract capital and the investors’ who uses the information to find investment opportunities. In order to answer our research question, we therefore believe applicable theories should consider both entrepreneurs’ and investors’ perspectives. In the following subsections, we introduce theories and research about crowdfunding, financial information, information asymmetry and overconfidence bias which we believe consider both of these perspectives. First, we need to understand the needs of the entrepreneurs and investors and their view on financial information. To broaden our understanding, we have also looked into theories that have been linked to equity crowdfunding and entrepreneurs before. These are information asymmetry and overconfidence which are well-proven and well-documented theories, which we apply to the new setting of crowdfunding.

3.1 Funding

Financial capital is important for entrepreneurs, e.g. for product development (Ahmed & Shepherd, 2000, p. 100), research and development and marketing (Gabrielsson & Kirpalani, 2004, p. 564-565). In order to have sufficient financial capital, entrepreneurs could use different funding methods – traditional methods (offline, venture capitalists) or non-traditional methods (online, crowdfunding) (Agrawal et al., 2014, p. 67, 70-71). In this research, we exclusively investigate equity crowdfunding. However, we briefly describe traditional methods and other types of crowdfunding to increase the understanding and to improve the perspective of equity crowdfunding.

Traditional methods, typically mean that entrepreneurs who want to raise capital contact investors (venture capitalists) (Agrawal et al., 2014, p. 67, 70-71; Fried & Hisrich, 1994, p. 31). If an entrepreneur is interesting enough, investors continue to make more in-depth reviews of the business project (Fried & Hisrich, 1994, p. 31-33). For instance, investors might interview organizational members and customers. In that manner, there might be a direct dialogue between an entrepreneur and investors, which opens up for questions and answers (Fried & Hisrich, 1994, p. 31-33). If an entrepreneur passes the in-depth review, investors make an investment in the business project.

3.1.1 Crowdfunding

In previous research, the general definition of crowdfunding means that people make collective (financial) investments in the same business project (e.g. Ahlers et al., 2015, p. 955; Mollick, 2014, p. 2). Each individual makes a small amount of investment which accumulate to a larger total amount of investment. Through (usually) an online platform, entrepreneurs who want to raise capital communicate with investors who search for investment opportunities (Ahlers et al., 2015, p. 955; Mollick, 2014, p. 2). To add to this definition, in our research we restrict crowdfunding to only include online platforms because of better/easier access to information (through crowdfunding websites) about crowdfunding projects.

In further detail, previous research defines different types of crowdfunding: reward-crowdfunding (Mollick, 2014, p. 3), donation-crowdfunding (Belleflamme et al., 2014, p. 587), crowdlending (Mollick, 2014, p. 3) and equity crowdfunding (Ahlers et al., 2015, p. 957-958). Reward-crowdfunding means investments are made in exchange for some
benefits (e.g. have the benefit to pre-order products which the company will manufacture) (Mollick, 2014, p. 3). Donation-crowdfunding means investments are made pro bono with no need for exchange of anything (Belleflamme et al., 2014, p. 587). Crowdlending means entrepreneurs seek to borrow money peer-to-peer (Mollick, 2014, p. 3) Equity crowdfunding means investments are made in exchange for (equity-) shares of the company (Ahlers et al., 2015, p. 957-958).

In this research, we exclusively investigate equity crowdfunding. If we consider our research question and purpose, crowdfunding includes two perspectives – entrepreneurs who want to raise capital and investors who search for investment opportunities. In order to answer our research question, we therefore have to choose the type of crowdfunding where both the perspective of entrepreneurs and the perspective of investors are clearly evident. In comparison between the different types of crowdfunding, we believe both the perspective of entrepreneurs and the perspective of investors are most clearly evident in equity crowdfunding. The reason for this might be the interdependence between entrepreneurs and investors.

In further detail, by interdependence we mean that entrepreneurs have direct dependence on investors to provide financial capital while investors have direct dependence on entrepreneurs to provide a return on investment (remember that equity crowdfunding means investments are made in exchange for (equity-) shares of the company). In contrast to reward-, and donation-crowdfunding, equity crowdfunding implies that entrepreneurs should provide a return on investment for investors for a period of time, while reward-, and donation-crowdfunding implies a one-time exchange (provide capital, in exchange for one-time benefits/or nothing, pro bono).

In comparison to crowdlending, we argue that investors in equity crowdfunding are more vulnerable to the financial information on the crowdfunding platform. In other words, investors in equity crowdfunding do not know in advance what their return on the equity will be. Instead, they have to try to predict the company’s revenues, costs and profit/loss. For instance, in the initial phase these companies might not pay out dividends. However, in crowdlending investors might know in advance the interest rate and thereof its return on investment for giving loans to entrepreneurs on the crowdfunding platform. Therefore, we believe equity crowdfunding is more appropriate for our research study.

3.1.2 Two Perspectives - Entrepreneurs/Investors

If we consider crowdfunding platforms, these platforms are financial intermediaries where entrepreneurs who want to raise capital and investors who search for investment opportunities are two constituent parties (Ahlers et al., 2015, p. 955; Agrawal et al., 2014, p. 70-71; Mollick, 2014, p. 2) with to some extent different purpose of choosing to participate in crowdfunding (Agrawal et al., 2014, p. 70-74). If we focus on equity crowdfunding (which we exclusively investigate), entrepreneurs’ purpose for crowdfunding might be to reduce the cost of capital while investors’ purpose for crowdfunding might be to find interesting business projects for investment (Agrawal et al., 2014, p. 70-73).

In further detail, entrepreneurs might reduce the cost of capital because crowdfunding platforms could help entrepreneurs who want to raise capital to identify investors with strong beliefs in the business project, and who therefore are willing to make investments in exchange for a small (equity-) share of the company (Agrawal et al., 2014, p. 70-71).
In contrast to traditional (offline) funding methods, entrepreneurs who want to raise capital have an opportunity through non-traditional (online) crowdfunding platforms to communicate with investors from anywhere in the world who are searching for investment opportunities (Agrawal et al., 2014, p. 70-71).

Further, entrepreneurs who want to raise capital might reduce the cost of capital because crowdfunding platforms sometimes provide persuasive information for investors who search for investment opportunities (Agrawal et al., 2014, p. 70-71). For instance, if people through the crowdfunding community have a great interest in the product, the interest might validate the business project and contribute to higher willingness among investors to make investments in the project (Agrawal et al., 2014, p. 70-71).

3.2 Financial Information

Investors base their investment decisions to a large extent on financial information provided by the entrepreneurs. According to the Conference board (2001, p. 10) financial information shared with investors should be accurate, adequate and timely so that informed decisions can be made. Therefore, we will briefly touch upon two very important topics when it comes to financial information; financial forecasts and the concept of value. We have not been able to find any literature on financial forecasts or valuation methods specifically in the crowdfunding setting, instead we have done a literature review on financial forecasts and valuation in private equity firms, angel investors and venture capitalists. In regard to incentive structure, interdependence and company size, we assume these will work as analogies to compare with equity crowdfunding.

3.2.1 Financial forecasts

Financial forecasts are predictions of expected future financial figures such as sales, costs or earnings. These predicted numbers can be produced by for example analysts, investors or managers within the firm, in this study we will refer to the managers financial forecasts if nothing else is stated. To create and disclose financial forecasts is an important task for managers and the purpose of these documents varies from operating, governance, control, compensation, budgeting, investing and financing (Armstrong et al., 2007, p. 183). In publicly traded companies, forecasts that span more than one or two years are rarely seen (Armstrong et al., 2007, p. 184). With this in mind, a valid question is why most entrepreneurs disclose five-year forecasts in their business plans despite their unknown future, while established companies with relatively steadier cash-flows do not. Blank (2013, p. 5) and Sahlman (2008, p. 98) say that the future of startups is so uncertain and unpredictable that financial forecasting is a waste of time.

One reason to disclose financial forecasts is to reduce the information asymmetry and give the investor a better understanding of the risks and opportunities (Hirst et al., 2008, p. 322, 324; Ahler et al., 2015, p. 963). In the case of startups this means that the entrepreneur has greater insight in the operations than the outside investors and is therefore in a better position to judge the risks and opportunities. Furthermore, financial forecasts can be made as accurately as possible or manipulated to show better or worse figures than actually anticipated for strategic reasons (Hirst et al., 2008, p. 326). Lang et al. (2000, p. 627) claims that small firms are more likely to engage in strategic behavior in their financial forecasts since it is harder to detect due to lacking analyst coverage in the media.
Lang et al., (2000, p. 652) has found evidence that companies are more likely to disclose financial forecast prior to public equity offerings and that these forecasts in hindsight tend to be too optimistic. This indicates that the optimistic forecast’s purpose could be to create a temporary increase in the companies’ valuation to lower the companies’ cost of capital (Lang et al., 2000, p. 652-653). This is since better financial forecasts will result in a higher value of the company which in turn equals more money received in the public equity offering. Financial forecasts on the crowdfunding platforms are likely to be disclosed in order to attract capital from investors and might also be manipulated to gain a higher valuation. Hence, financial forecasts could help to reduce the information asymmetry and make it easier for entrepreneurs to attract investors (Ahler et al., 2015, p. 963), but on the flipside highly inaccurate forecasts is a betrayal that can hurt the long-term relationship with the investors.

Armstrong et al. (2007, p. 200) show that managers in venture backed firms on average underestimate their revenue for the first year of their five-year financial forecasts but overestimate the revenue in year two to five. The managers underestimated their costs in year one and two, which means they were overly optimistic, although overestimated costs in years three to five (Armstrong et al., 2007, p. 200). When it comes to profitability the managers in the venture backed firms were overly optimistic and overshot the financial forecasts on all time horizons, with significantly increasing overestimations over time (Armstrong et al., 2007, p. 200).

Armstrong et al.’s findings show a mixture of optimism and pessimism in the forecasts, and the authors explanation is strategic behavior on part of the managers (Armstrong et al., 2007, p. 203). The young firms are dependent on financing and have strong incentives to exaggerate long-term forecasts in order to receive funding, while being pessimistic about the near future which is easier to verify and prove wrong (Armstrong et al., 2007, p. 203).

Another interesting finding is that the less likely it is for the over optimistic forecasts to be detected by investors (e.g. when there is a lot of intangible assets such as R & D expenditures), the more likely the forecasts are to be overly optimistic (Armstrong et al., 2007, p. 203-204). Rogers and Stocken (2005) has reached the same conclusions in their research on publicly traded companies. The previously mentioned information asymmetry on equity crowdfunding platforms indicates that overly optimistic forecasts would be hard for investors to detect, which could increase the occurrence as Rogers and Stocken’s (2005) and Armstrong et al.’s (2007) studies suggest.

On equity crowdfunding platforms entrepreneurs get instant rewards for overly optimistic financial forecasts in terms of better chances of being funded and increased valuation. At the same time the potential negative effects of manipulated numbers would come far in the future, perhaps if the startup needs additional funding. The entrepreneurs that try to make accurate forecasts might not be funded since they are competing (about investor’s capital) with entrepreneurs that have seemingly better over optimistic forecasts. In other words, there are plenty of incentives for entrepreneurs to systematically exaggerate the financial forecasts. The problem is that it could be a race to the bottom since investors’ trust for the financial information on equity crowdfunding platforms cannot be trusted.
3.2.2 Valuation of startups

An important question prior to any investment decision is what an asset’s value is, to have something to compare to the price in order to know if the investment is a rip-off or a bargain. The offered amount of equity shares and the price is probably the most crucial numbers an investor has to analyze on the equity crowdfunding platforms. Therefore, the valuation techniques the entrepreneur used to come up with the price should be highly interesting for investors. The concepts of value and price and the relationship between them is essential to investors. Therefore, it will be included in this study in order to evaluate the quality of information on equity crowdfunding platforms.

Despite the subjective nature of value, company valuation is one of the most fundamental concepts of modern finance theory and there are lots of research and theories devoted to it (Dittmann et al., 2004, p. 611). These valuation methods are best fit for big, stable companies with a long history (Miloud et al., 2012, p. 170; Dittmann et al., 2004, p. 619). Valuing young startup companies based on output such as cash-flows more difficult, partly because of lacking a record of financial statements (Miloud et al., 2012, p. 170-171). There is no “one size fits all” valuation method for startup companies, instead the choice should be adjusted to case specific characteristics (IPEV, 2016, p. 26-27). Multiple valuation methods can be used simultaneously and weighted into one mixed-methods approach (IPEV, 2016, p. 28), this is even preferable according to Dittmann et al. (2004, p. 634) and IPEV (2016, p. 39). Venture capital companies use three different methods on average (Dittmann et al., 2004, p. 620). The valuation techniques can be divided into three main categories; market approach, income approach and replacement cost approach (IPEV, 2016, p. 27).

In the market approach observable market data is used to get a sense of what the startup company is worth. According to the International Private Equity and Venture Capital Valuation Guidelines observable market-based measures of risk and reward should be used as much as possible (IPEV, 2016, p. 28). A simple market approach method is to check if equity in the company has been sold recently, in that case the value used in that transaction could be a good starting point for a valuation (IPEV, 2016, p. 29). This approach is only suitable shortly after the previous investment round, since startup companies can develop quickly and the value as well (IPEV, 2016, p. 29). If there is an active market for shares in the company’s shares it is even easier to determine the value by simply using the market price (IPEV, 2016, p. 37), although this is rarely the case with startup companies. Another common market approach is to use multiples like Price/Earnings, Enterprise Value/EBIT or Enterprise Value/Sales (IPEV, 2016, p. 32-33; Dittmann et al., 2004, p. 618). These multiples are measures of performance and should be compared to similar businesses assuming that the value of other companies is correct (IPEV, 2016, p. 32, 34). The multiples can also be compared to the startup’s own historical performance or to projections of future performance (IPEV, 2016, p. 36-37). The multiple approach is best fit for companies with stable recurring earnings (IPEV, 2016, p. 34), making it unfit for early stage startup valuation. 60% of all venture capitalists uses some kind of multiple in their valuation, where Price/Earnings ratio (32%), Enterprise Value/Sales ratio (40%) and Enterprise Value/EBIT ratio are the most common (Dittmann et al., 2004, p. 620).

In the income approach the company is valued based on its output, more specifically to calculate the present value of expected future earnings or cash flows (IPEV, 2016, p. 38). The investor can either calculate the discounted cash flows (DCF) for the entire company
or the discounted cash flows expected from the investment itself (IPEV, 2016, p. 38-39). The present value of the future cash flows should be estimated using reasonable assumptions and a discount rate that reflects the inherent risk of the investment (IPEV, 2016, p. 40). Therefore, valuation using the income method requires a high degree of subjectivity, which is why the method is widely criticized in the startup financing industry (IPEV, 2016, p. 39, 44). While historical information from financial statements are backwards looking and reliable, investors are forward looking and interested in what future earnings will be, making it tempting to use the unreliable financial forecasts instead (IPEV, 2016, p. 36). 58% of the venture capitalists use some kind of DCF method to value investments (Dittmann et al., 2004, p. 620).

The last method discussed in the International Private Equity and Venture Capital Valuation Guidelines (2016, p. 41) is the replacement cost approach, in which the value of the startup is calculated as the value of its net assets (assets - liabilities). The value of the net assets should be the market value and not the value on the balance sheet and could also be adjusted for non-operating assets and excess liabilities (IPEV, 2016, p. 41). This valuation approach is fit for distressed companies (IPEV, 2016, p. 41), but less fit in startups where the biggest value lays in hopes of future success.

According to Miloud et al. (2012, p. 153), a good startup valuation is based on proper strategic analysis and not just on number crunching of made up numbers. Therefore, startup valuation is often based on inputs instead of outputs, such as the team and the growth of the industry in where the startup is operating (Miloud et al., 2012, p. 170). 34% of venture capitalists acknowledged to use “experience” as a way to value companies, this includes the use subjective assessments of for example the team, market, barriers to entry and technology (Dittmann et al., 2004, p. 621). Although only 9% of venture capitalists relies on these subjective factors alone, instead the method is used together with a more objectifiable methods like DCF or multiples (Dittmann et al., 2004, p. 622).

3.3 Overconfidence Bias

People in general have a tendency to overestimate their own ability and performance in comparison to others, this is often referred to as overconfidence bias (Skala, 2008, p. 38). This phenomenon has been thoroughly studied within psychology since the 1960s and recently also within business and economics (Skala, 2008, p. 34). Within psychology overconfidence research has mainly been concerned around human probability judgement (Skala, 2007, p. 38). One common method to measure overconfidence (e.g. Fischhoff et al., 1977) is to first let the participants answer a questionnaire and at the same time ask them to evaluate their own effort, in these tests people generally overestimate their results. For example, when people claim that they are “99% sure” of the correct answer, they tend to be right about 80% of the time (Kahneman & Lovallo, 1993, p. 26).

Psychologist usually differentiate between three kinds of overconfidence bias, namely the better-than-average effect, unrealistic optimism and illusion of control (Taylor & Brown, 1988, p. 195-196) The better-than-average effect describes the fallacy to overestimate one’s own ability in comparison to the peers (Taylor & Brown, 1988, p. 195). One example of the better-than-average effect can be found in an experiment conducted by Svenson (1981) that showed that 93% of the Americans and 69% of the Swedes considered themselves to be above average drivers. This result is obviously a statistical
impossibility since only 50% of the population are per definition above average, hence the explanation must be that people tend to overestimate their driving skills.

Unrealistic optimism on the other hand, focuses on people's overly optimistic view on future events, like becoming famous or even winning the lottery (Skala, 2008, p. 40). Unrealistic optimism includes attributing too high probability of positive outcomes, but also underestimating the likelihood of negative outcomes (Skala, 2008, p. 40). The unrealistic optimism has shown to be the strongest when the test participants perceive they can control the outcome and if they have contributed or invested emotionally in the events (Skala, 2008, p. 40).

Illusion of control is another subcategory to overconfidence bias that concerns a tendency amongst humans to believe that they can influence the outcome of random events, like tossing a coin or throwing dice for instance (Skala, 2008, p. 40). Further on in the text, we will treat overconfidence as a collective term for these three subcategories if nothing else is stated.

CEO overconfidence has been subject to several studies and how it affects decisions regarding for example investments, mergers and acquisitions and stock option compensation (Skala, 2008, p. 45-46). Furthermore, several studies have shown that overconfidence is a common trait amongst entrepreneurs (e.g. Cooper et al., 1988; Camerer & Lovallo, 1999; Simon & Shadrer, 2012; Koellinger et al., 2007). When asked about their chances for success 80% of the entrepreneurs estimated their chances to be 70% or higher, while the actual survival rate for similar companies was 33% (Cooper et al., 1988; Dun & Bradstreet, 1967, cited in Kahneman & Lovallo, 1993, p. 27). Without some overconfidence most entrepreneurs would probably be more reluctant to risk everything and engage in new business ventures, in this sense a certain degree of overconfidence is beneficial to society. On the other hand, the same trait can also lead to unrealistic and overly optimistic forecasts that can lead to bankruptcy. Entrepreneurs tend to keep running financially struggling businesses despite poor performance longer than rationally motivated, causing harm to their personal finances (Shepherd et al., 2009, p. 143), this might also be due to overconfidence.

Overconfidence has previously been linked to forecasting. Kahneman and Lovallo (1993, p. 24) suggests that bold forecasts can be explained by overconfidence, and that managers may in fact expose themselves to more risk than their actual risk preference. Furthermore, Kahneman and Lovallo (1993, p. 24-27) differ between an inside- and an outside view, where the inside view forecast is born when the specific case is analyzed in a vacuum, without taking results from similar cases into consideration unlike the outside view of forecasting. While the inside view tries to predict the future by looking at the unique features of the case, outside view instead finds what is not unique and extrapolates wisdom from objective statistics. According to Kahneman and Lovallo (1993, p. 25), the outside view can be expected to yield superior forecasts. The authors claim that people in general have a strong tendency to use an inside view in most cases despite available information and knowledge how to use it, which would support an outside view (Kahneman & Lovallo, 1993, p. 30).

In conclusion, most people possess a tendency to overestimate their own abilities, have to strong beliefs about the future and even delude themselves that they have control over random events. This overconfidence has previously been linked to entrepreneurs and also...
to forecasting. This study aims to evaluate the quality of financial forecasts of crowdfunded startups. Therefore, we find it appropriate to discuss the outcomes of this study through the lens of overconfidence. Overconfidence could also be examined from the investors’ point of view in the equity crowdfunding setting, although that is not within the scope of this study. We will stick to investigate the overconfidence of entrepreneurs and their financial forecasts.

3.4 Information Asymmetry

In regards to a market with two players, the former Nobel Prize winner George A. Akerlof (Nobel Media AB, 2014a) has developed a model about information asymmetry (Akerlof, 1970, p. 488-490). He explains this model in terms of an automobile market (Akerlof, 1970, p. 488-489). In this market, there are two players known as buyers and sellers. Each buyer has four choices when it comes to buying cars—new and used cars respective good and bad cars (Akerlof, 1970, p. 489). The main point of the model is that buyers and sellers do not usually have access to the same information (Akerlof, 1970, p. 489-490). Instead, he argues that sellers have information advantages to buyers who do not have enough information to know what type of car sellers have for sale (Akerlof, 1970, p. 489-490).

Another key insight concerning information asymmetry is quality and the cost of dishonesty (Akerlof, 1970, p. 495). The quality of a product can be either good or bad and the seller might be honest or dishonest about the quality, and it is often impossible for the buyer to know the difference (Akerlof, 1970, p. 495). The big problem is that without an easy way for the buyers to assess the quality, the presence of low quality “lemons” makes buyers reluctant to buy the product which drives the prices of both good and bad quality products (Akerlof, 1970, p. 495). The drop in price makes the sellers of good quality products unwilling to sell their products for prices below their worth, hence we are left with a market of lemons (Akerlof, 1970, p. 495).

We believe that this could be happening to the equity crowdfunding companies as well. There are most certainly good quality companies seeking capital, but also poorly managed companies that will go out of business shortly. The problem is that it is hard to tell one from the other. Investors will have to assess the information provided on the equity crowdfunding platform and make a guess about whether the company is a “lemon” or not. The information asymmetry on crowdfunding platforms is often so big that an investment can be considered a complete shot in the dark (Statens Offentliga Utredningar, 2018, p. 336-337). And as for the trust in equity crowdfunding to remain intact the investors need to be able to distinguish the lemons and therefore adequate financial information is essential. This concern about investor protection and future legitimacy of equity crowdfunding is also expressed in the SOU 2018:20 document (Statens Offentliga Utredningar, 2018, p. 15).

To our knowledge, there is not much research about crowdfunding and information asymmetry, especially not with regards to equity crowdfunding. Belleflamme et al. (2014, p. 597-600) have to some extent done conceptual research about the subject matter. They have made some assumptions about how the crowdfunding market works and based on these assumptions made calculations to come up with possible results (Belleflamme et al., 2014, p. 590-591, 597-600). As a starting point, they have considered reward crowdfunding and equity crowdfunding as two different types of crowdfunding
(Belleflamme et al., 2014, p. 590-591). As well, they assume entrepreneurs who want to raise capital to be at the idea stage.

In further detail, Belleflamme et al. (2014, p. 597-600) have tried to understand the consequences of asymmetric information on crowdfunding by using theoretical calculations. For instance, they discuss how asymmetric information about product quality for consumers affects the crowdfunding process for entrepreneurs (Belleflamme et al., 2014, p. 597-600). In light of this, entrepreneurs have a harder time finding people who would like to participate in reward-crowdfunding (in this case to pre-order products) compared to equity crowdfunding. As we exclusively investigate equity crowdfunding, we will focus on the discussion about equity crowdfunding and only mention the discussion about reward crowdfunding to improve the perspective of equity crowdfunding.

In terms of equity crowdfunding, product quality only matters for investors in relation to projections about profitability of the business project (Belleflamme et al., 2014, p. 597-600). In other words, whether the product quality increase/decrease the return on investment. If we consider reward crowdfunding (in this case to pre-order products), availability of information about product quality influence the choice of whether or not to make investment in the business project (Belleflamme et al., p. 597-600). If we consider our research question and purpose, the previous discussion seems to be relevant because our research question and purpose is about financial forecasts which relate to projections about profitability of the business project.

3.5 Concluding Remarks

New technology has made it easier than ever for entrepreneurs seeking capital to meet with investors looking for investment opportunities. The emerging online crowdfunding platforms allow investors to easily browse for interesting cases to invest in. Online equity crowdfunding could potentially be beneficial for both investors and entrepreneurs and change the way venture capital is acquired. We believe there is one very important ingredient that could jeopardize the future of online equity crowdfunding; namely trust. Trust and honesty is key in order for investors to continue to risk their capital by letting someone they have never met take care of their money. We have chosen to examine this trust through the information exchange between the two parties, more specifically the financial information that entrepreneurs’ share with investors.

In this chapter we have discussed financial forecasts and valuation, which are two essential pieces of financial information. Financial forecasts give an investor a clue about what to expect of the future in terms of revenue, costs and profit/loss. The entrepreneurs’ valuation is the process that results in the price for the equity shares offered to the investors. The investor then has to make a valuation of his own to find out if the value exceeds the price. Financial information should be accurate, adequate and timely so that investors can make informed investment decisions. However, previous studies within the fields of valuation and financial forecasts has shown that there are instances where this information might be systematically inaccurate.

In order to evaluate the financial information, we found it appropriate to use the well documented theory of information asymmetry. The theory describes the problem that occurs when two parties engaging in a transaction does not have the same information
available. For instance, the seller of a product often has more information about the object that is for sale. In the case of an entrepreneur and an investor it is likely that the entrepreneur has access to superior information about the investment. The problem of asymmetrical information is not unique for equity crowdfunding, it is more or less present in all kinds of investing. But due to the low amount of information shared on the equity crowdfunding platforms, we believe that it is a more severe problem within equity crowdfunding, than for example when investing in large companies. In large companies there are usually much more information available which makes it easier to value the investment. This is why trust is of the utmost essence when it comes to equity crowdfunding, since the investor is in a vulnerable situation information wise.

There is another theoretical factor that might make it even harder to trust the financial information shared by the entrepreneurs, and that is overconfidence bias. Previous research suggest that people have a tendency to overestimate their own ability and have an overly optimistic view of future outcomes. This overconfidence bias is well documented among entrepreneurs that often overestimate their own ability and chances to succeed. Studies have also shown that forecasts are often biased by overconfidence. If the previous studies still hold true, the entrepreneurs’ financial forecasts on equity crowdfunding platforms might be systematically overestimated. Another threat to the accuracy of the financial information comes from strategic behavior that has been found amongst companies seeking capital. This strategic behavior is extra strong in small companies and especially when the balance sheet consists of much intangible assets. If investors use these financial forecasts to evaluate investment opportunities, they might be deceived into engaging in risks beyond their risk preferences. This could also hurt the trust that online equity crowdfunding relies on.

The theories of information asymmetry and overconfidence bias gives reason to question the financial information found on equity crowdfunding platforms. High quality financial information could reduce the information asymmetry, which is why we want to examine the quality of financial information in terms of accuracy and adequacy. The future of equity crowdfunding relies on the trust between investors and entrepreneurs which is why we need to examine these concepts further.
4. Methodological Point of Departure

In regards to our choice of a sequential explanatory research design in which we use both quantitative and qualitative methods, Creswell et al. (2002, p. 223-227) emphasize the importance to explain in what order we use these methods (implementation), to what extent we use each of these methods to collect information from companies (priority) and at what stage we combine these methods in the research process (integration). In the following sections, we therefore explain our choices of these aspects of the research design with regards to the nature of our research question and purpose.

4.1 Implementation

In order to collect financial information from companies, we start with the quantitative methods and subsequently continue to collect information from these companies with qualitative methods. In regards to our research question and purpose, we examine the quality of financial information that entrepreneurs provide on the crowdfunding platform for investors to read before they decide to make investments. As equity crowdfunding is an emerging subtype of crowdfunding, we do not have enough knowledge to in advance know what type of the financial information which is interesting enough to examine about equity crowdfunding.

In that manner, we use quantitative methods to scan the equity crowdfunding market to get overview knowledge about what might be interesting enough to further examine with qualitative methods. By using quantitative methods, we have the opportunity to make statistical analysis (Creswell, 2014, p. 45-46) which might indicate aspects of the financial information that might be interesting enough to examine about equity crowdfunding. After we use quantitative methods, we use qualitative methods to more in-depth examine these aspects of the financial information and as a consequence examine whether these statistical relationships seem to be accurate.

As there is a relatively small number of companies to examine for equity crowdfunding, we might not have enough information to argue that the quantitative relationships are statistically significant (Edmondson & McManus, 2007, p. 1169-1172). However, if we use qualitative methods to more in-depth examine these quantitative relationships we have better chances to validate the quantitative relationships. For instance, by using qualitative methods we could examine what underlying assumptions entrepreneurs have made for the financial information, more specifically to calculate the financial forecasts and valuations.

4.1.1 Practical Procedures

For the first quantitative method we will test if the financial forecasts are systematically overestimated. To do this will collect the financial forecasts and the income statements for each one of our case companies. The financial forecasts will be collected from FundedByMe’s website while the financial statements including the income statements will be collected from the database Retriever. To prepare the data for the quantitative analysis, the numbers from the financial forecasts and income statements will manually be inserted into Microsoft Excel. To statistically examine this, we use binomial distribution (which we describe in more detail in the following section) and compare the forecasts for revenue, costs and result with the actual outcome in the income statement. In this way, we examine whether these entrepreneurs tend to make overestimations or
underestimations for the revenue, costs and result in these financial forecasts. The quantitative method can be summarized in four short steps:

1. Collect the financial forecast for a case company from the FundedByMe website.
2. Collect the income statement from the same company from Retriever.
3. Insert the revenue, costs and profit/loss for all matching years into Excel.
4. Statistically examine the differences between forecast and outcome with descriptive statistics and statistical testing using binomial distribution.

We will also use qualitative methods to analyze the financial information on equity crowdfunding platforms. To do this we will manually read through all the information that each case company disclose on the FundedByMe website. Under Investments opportunities on the FundedByMe website there is a list of every company that is or have previously been raising capital on the platform. Each company has an own page on FundedByMe with three categories of information; Description, Documents and Questions.

The first step in the qualitative data gathering will be to go through the entire description, then all of the published documents will be examined and also the questions. The description is a pitch of varying length that usually includes the same elements as classical business plans. This is likely to be the first document the investors encounter and screen for potential investment opportunities. The documents include documents (such as pdf-files, Excel spreadsheets, Word documents and images) available for download. Under this category more detailed business plans and financial forecasts are found, often also newspaper articles and advertisement images. All of these documents will be read carefully in order to examine the quality of financial information. The questions category is a questions and answers (Q&A) section where investors and entrepreneurs have the opportunity to communicate directly. One reason for also examining the Q&A section is to see whether investors seem to perceive the information as adequate or if they have additional questions about the topics we are examining.

Information regarding specific themes will be systematically collected and later analyzed. The themes we will give extra care to are:

1. Financial forecasts – assumptions used to come up with the financial forecast. For example, this includes to see if there are detailed information regarding assumptions like produced quantity and new market entries. If only the revenue, costs and profit/loss is stated without including the underlying assumptions it is hard for investors to evaluate how realistic the numbers are.
2. Valuation – here we are interested in what techniques and assumptions have been used to arrive at the value at what the company is selling the shares at the FundedByMe platform. We will collect all information regarding the valuation.
3. Other financial information – while the primary focus will be on financial forecasts and valuation, we will also include other financial information. This will include information regarding previous funding, speculative information of future returns and potential investor exits.

In every single case we will manually go through all of the available disclosed information in the aforementioned sections description, documents and questions. All of the financial information that we encounter that we perceive might add value for the analysis is collected and saved for later categorization and analysis.
4.1.2 Binomial Distribution

As a way to test whether the financial forecasts are systematically overestimated or not, we will conduct statistical tests using the binomial distribution. The binomial distribution can be used when an event only has two outcomes which are called “success” or “failure” with the given probability p for success and 1-p for failure (Moore et al., 2011, p. 305-307). For the binomial distribution to be applicable four requirements have to be met; a fixed number of observations (n); these observations need to be independent; a binary outcome; a given constant probability p for each observation (Moore et al., 2011, p. 305). The financial forecasts fulfill these binary criteria since they can be either overestimated or underestimated (or right on spot which will be ignored for the sake of simplicity). We will also assume that each observations outcome is random and therefore independent. We are interested in whether financial forecasts are overestimated more often than underestimated and if so, whether they are overestimated often enough to make it statistically significant. To test this, we apply the same probability for overestimation (“success”) and underestimation (“failure”). The statistical test is showed in formula 1 and can be interpreted as: “what is the probability of getting this number of successes given that the chance of each “success” is 50%?”.

\[ P(X = k) = \binom{n}{k} p^k (1 - p)^{n-k} \]

\( n = \) observations  
\( k = \) number of “successes”  
\( p = \) probability of “success”

**Formula 1. Binomial distribution**

4.2 Priority

In regards to our research question and purpose, we examine financial information and therefore numbers. As a consequence, we believe quantitative methods should be our main method to collect information from companies on the crowdfunding platform because these methods are appropriate for numeric information (Creswell, 2014, p. 45-46). Instead, we use qualitative methods to examine the underlying assumptions of these quantitative relationships. For instance, entrepreneurs make different assumptions when they make financial forecasts and valuations of their companies and therefore qualitative methods are appropriate to examine these assumptions. In qualitative methods, researchers emphasize the importance and meaning of the surrounding environment (Creswell, 2014, p. 45-46), which in our case is the underlying assumptions of the financial information.

4.3 Integration

In accordance with the standard procedures for sequential explanatory research designs, we do not combine the quantitative and qualitative methods until the concluding analysis (Creswell et al, 2002, p. 219-227).
4.3.1 Quantitative Perspective
In terms of quantitative methods, we use descriptive statistics which means that we initially collect data from companies and afterwards describe and analyze that data (Ghauri & Grønhaug, 2010, p. 152). In that manner, we describe if entrepreneurs tend to make overestimations or underestimations for revenue, costs and profit/loss in their financial forecasts with average difference, range (min. and max. value) and p-value.

4.3.2 Qualitative Perspective
To support the descriptive statistics, we use multiple explanatory case studies to examine the underlying assumptions for the financial information. For instance, we examine whether or not the entrepreneurs describe how they have made the financial forecasts or valuations. An explanatory case study means that there are already possible explanations for some facts of the case, but you are trying to come up with other explanations of these facts (Yin, 1981, p. 60-62). Thereafter, you evaluate these possible explanations and choose the most reasonable explanation for each of these facts to make conclusions (Yin, 1981, p. 60-62). In our research study, this means that the quantitative methods provide possible explanations for some facts of the case while we use qualitative methods to come up with other explanations of these facts.

4.3.3 Concluding Analysis
In the concluding analysis in which we analyze the results from our quantitative and qualitative methods we will use thematic analysis. In a thematic analysis you categorize important subjects into common themes (Attride-Stirling, 2001, p. 386-387). In terms of our sequential explanatory study, the descriptive statistics from our quantitative methods indicate interesting subjects to further examine. By using our qualitative methods, we attempt to support our quantitative results. In that manner, the quantitative methods will indicate overall themes while we use our theoretical frame of references to specify these overall themes into more specific sub-themes. These sub-themes will be used as directions when we analyze our quantitative results and qualitative results together.

However, there are some drawbacks of the thematic analysis. For instance, we might not emphasize results that do not belong to any of the themes. In that manner, some minor aspects might not be considered. As well, the thematic analysis in combination with our sequential explanatory study imply that we analyze both the quantitative and qualitative results together. In that way, some isolated aspects of either quantitative or qualitative results might not be considered. However, we do not consider these limitations to be any problem for our research study. As we have previously been discussing, the rather small number of companies to examine implies that we need to examine the quantitative results together with qualitative results to minimize the risk for unreliable analysis of statistical relationships.

4.4 Sampling
In regards to our limitations, our population is startups seeking funds on Swedish equity crowdfunding platforms. To select companies, we will use sequential mixed methods sampling which in our case means that we start to sample for quantitative methods and after that to sample for qualitative methods (Teddlie & Yu, 2007, p. 90-91). The sample for qualitative methods are based on the sample for quantitative methods (Teddlie & Yu,
2007, p. 90-91). As we have previously been discussing, we have made some limitations in our study. Therefore, we use purposive sampling which means that each company must meet some requirements before we collect information about them (Teddle & Yu, 2007, p. 84). The number of cases is not usually in great number, more specifically less than 30 cases (Teddle & Yu, 2007, p. 84) which is consistent with our research study.

In further detail, we only examine equity crowdfunding companies, Swedish companies, successfully financed companies and companies which have financial information available for investors to read before they decide to make an investment in the business project. From a practical perspective, these criteria worked well with the specific crowdfunding platform that we used to collect financial information from these companies. On the crowdfunding platform, we had the possibility to categorize companies in accordance to our criteria, which facilitated the process for selecting appropriate companies. In that manner, we did not have to do any subjective assessments of whether these companies fulfilled our criteria or not. Instead these aspects of each company had already been registered on the platform.

The only criterium we could not categorize on the crowdfunding platform was availability of financial information from these companies. In terms of financial forecasts, the corresponding information must be available in the income statements because we had to match financial forecasts with the actual financial outcome in these income statements. We believe it is important that the sample for qualitative methods are based on the sample for quantitative methods. In that manner, we have the possibility to examine financial information from different perspectives (financial forecasts and valuation) from the same companies.

4.4.1 Sampling for Quantitative Methods
Initially, we started to download financial forecasts for each company on the equity crowdfunding platform FundedByMe that had that information available, was Swedish and successfully financed. As a second step, we started to download the income statements about these companies from an online database known as Retriever, accessed through the University Library. If we found a matching time period between the financial forecasts and the actual outcome in the income statement, the companies were selected to be further examined.

In terms of the sample size, we examined 22 companies. There were 17 companies with a one-year match, four companies with a two-year match and one company with a three-year match between the financial forecasts and the actual outcome in the income statement. Therefore, we had a total of 28 observations.

4.4.2 Sampling for Qualitative Methods
Based on the sample for quantitative methods, we made the sample for qualitative methods. We included all the 22 companies that were in the sample for financial forecasts. After that, we analyzed the financial information for both financial forecasts and valuation in a qualitative manner. The reason why we wanted to base the qualitative sample on the quantitative sample is because we want to examine the quantitative results about financial forecasts in more detail. Moreover, we wanted to examine the quality of financial information from different perspectives, including valuations.
4.5 Non-completion

There was a total of 35 equity crowdfunding companies on FundedByMe which fulfilled our limitations (see section 1.4). As we previously mentioned in the section about sampling for quantitative and qualitative methods, we could only examine 22 companies. We therefore had a non-completion of 13 companies, which did not fulfill the criteria when we used the purposive sampling method. We could only examine 22 out of 35 companies because of two reasons - not matching time periods between financial forecasts and income statements and not enough information in the financial forecasts to compare with the information in the income statements. Further, we contacted FundedByMe and tried to get more information about some of the companies, which we did not have opportunity to get. For instance, we noticed that some of the documents on the crowdfunding platform disappeared after some time.

We do not believe the non-completions of the samples have any major impact on our results. The reason is because we use both quantitative and qualitative methods. We do not assume that the quantitative methods provide any statistical significant or generalizable results. Instead the quantitative methods are used to indicate interesting aspects that we continue to examine with the qualitative methods. The qualitative methods will in turn increase our understanding about each of the case companies. In that manner, the non-completions should not have any major impact on our results because we still examined each company on an individual basis.
4.6 Company Information

*Table 2. Overview of examined companies*

<table>
<thead>
<tr>
<th>Information Parameter</th>
<th>Number of Companies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Employees</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>1-5</td>
<td>13</td>
</tr>
<tr>
<td>11-20</td>
<td>4</td>
</tr>
<tr>
<td>Revenue (KSEK)</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>0 &lt; X &lt; 100</td>
<td>2</td>
</tr>
<tr>
<td>100 ≤ X &lt; 1000</td>
<td>6</td>
</tr>
<tr>
<td>1000 ≤ X &lt; 5000</td>
<td>8</td>
</tr>
<tr>
<td>5000 ≤ X &lt; 10 000</td>
<td>3</td>
</tr>
<tr>
<td>60 000 ≤ X &lt; 65 000</td>
<td>1</td>
</tr>
<tr>
<td>Profit/loss (KSEK)</td>
<td></td>
</tr>
<tr>
<td>- 25 000 ≤ X &lt; - 20 000</td>
<td>1</td>
</tr>
<tr>
<td>- 20 000 ≤ X &lt; - 15 000</td>
<td>1</td>
</tr>
<tr>
<td>- 15 000 ≤ X &lt; - 10 000</td>
<td>1</td>
</tr>
<tr>
<td>- 5 000 ≤ X &lt; -1000</td>
<td>8</td>
</tr>
<tr>
<td>- 1 000 ≤ X &lt; -100</td>
<td>6</td>
</tr>
<tr>
<td>- 100 ≤ X &lt; 0</td>
<td>2</td>
</tr>
<tr>
<td>0 ≤ X &lt; 100</td>
<td>1</td>
</tr>
<tr>
<td>100 ≤ X &lt; 1000</td>
<td>2</td>
</tr>
</tbody>
</table>

*Table 2* shows that the majority of companies which we have examined in our research study have 1-5 employees, a turnover from 100 thousand SEK to below 5 million SEK and a loss from 5 million SEK to below 100 thousand SEK. This indicates that we have mostly examined smaller companies. However, even though we have some bigger companies, especially one company with a turnover from 60 million SEK to below 65 million SEK we do not believe that have an impact on our results. In our research study, we examine what financial information entrepreneurs provide on the crowdfunding platform for their investors to read before they decide to make an investment in their business project. This might not have to do with how big the turnover is. Instead, it might
have to do with entrepreneurs’ willingness to provide information for investors that use
the crowdfunding platform to decide whether or not to make investments in their business
project.

However, the reason why we choose to present information about what companies we
have examined is partly to give transparency, but also to give better understanding and
insights about what companies the problems identified in our research study mainly apply
to. As we have previously discussed, the government would like to have better
understanding and insights about equity crowdfunding. In that manner, our research study
could provide better understanding and insights about how this is a problem among at
least smaller companies (which our research has mainly examined, although there might
be a problem among bigger companies as well which we leave for future research
studies).
5. Results

In the following chapter the data collected from the crowdfunding platform will be disclosed. First overall results from the data gathering will be shown as descriptive statistics, later in the chapter each case-company will be examined in more detail in a more qualitative way. The numbers from Case 1-22 which the quantitative results are based on can be found in Appendix 1.

5.1 Overall Results

Table 3. Overestimation or underestimation

<table>
<thead>
<tr>
<th>Overview</th>
<th>Overestimation</th>
<th>Underestimation</th>
<th>p-value</th>
<th>Significant (1%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>24</td>
<td>4</td>
<td>0.00008</td>
<td>YES</td>
</tr>
<tr>
<td>Costs</td>
<td>21</td>
<td>7</td>
<td>0.00441</td>
<td>YES</td>
</tr>
<tr>
<td>Profit/Loss</td>
<td>23</td>
<td>5</td>
<td>0.00037</td>
<td>YES</td>
</tr>
</tbody>
</table>

As shown in Table 3, the overall results demonstrate that entrepreneurs have a tendency to overestimate their revenues, costs and profit/loss. The number of observations in which the revenue was overestimated was 24 while 4 observation showed underestimated revenues. 21 of the observations showed too high estimated costs in the financial forecasts while 7 observations showed too low. Regarding the profit/loss 23 observations had higher numbers in the financial forecasts than in the income statement while 5 had lower. When a statistical testing using the binomial distribution were conducted the results are significant on the 1% confidence level in all three occasions.

Table 4. Average difference and range of variation

<table>
<thead>
<tr>
<th>Overview</th>
<th>Avg. difference</th>
<th>Min. value</th>
<th>Max value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>−56,02%</td>
<td>−100,00%</td>
<td>126,98%</td>
</tr>
<tr>
<td>Costs</td>
<td>−26,06%</td>
<td>−99,87%</td>
<td>122,71%</td>
</tr>
<tr>
<td>Profit/Loss</td>
<td>−450,75%</td>
<td>−9367,11%</td>
<td>128,63%</td>
</tr>
</tbody>
</table>

Table 4 shows that the average difference in revenues are overestimated by 56,02%, while costs and profits are overestimated by 26,06% and 450,75% respectively. Table 4 also shows the lowest and highest of the deviations between forecasted value and value in income statement. The biggest overestimation of revenue was 100% while the biggest underestimation was 126,98%. The highest overestimation of costs was 99,87% while the biggest underestimation of costs was 122,71%. Regarding the profit/loss, the biggest overestimation was 9367,11% while the biggest underestimation was 128,63%.
As can be seen in Table 5 we have also examined the overestimations and underestimations separately to see if there are extremes on either side that distorts the average when examined together. In the cases the revenue was overestimated, the average overestimation was 73,86% and the corresponding number for underestimations was 51,02%. The companies that overestimated their costs did it with 546,21% on average, while the underestimators did so with 67,07% on average. Regarding the profit/loss the overestimators did it with 571,59% on average and underestimators underestimated the profit by 80,96% on average.

5.2 Case Studies

In the following section, we present financial information about business projects that entrepreneurs have been providing on the crowdfunding platform.

5.2.1 Case 1

The entrepreneurs have been using the same crowdfunding platform two different times the same year to raise capital for their business project. In the financial documents, there were both times descriptive information about different valuation methods that these entrepreneurs have been using to value their business project. The valuation has been provided by a software in which the entrepreneur types in forecasts, assumptions and other company information and then gets five different values for the company. There are also explanations of each valuation method and disclaimers about potential flaws with the methods. The software gives a value based on a weighted average of the valuation methods scorecard, checklist, venture capital, DCF with LTG (discounted cash flow with long term growth) and DCF with multiples (discounted cash flow with multiples). The easy to follow document is disclosed with all the details and assumptions that the valuations are based on. The document reveals that discounted cash flow methods are based on the same numbers as the financial forecasts. Four out of the five valuation methods reach values between 12 and 16 MSEK, while the discounted cash flow with multiples reaches almost 52,5 MSEK. In other words, scorecard, checklist, venture capital and DCF with LTG have a similar valuation of their business project, while DCF with multiples have around 3,5 times higher valuation than the previous methods.

In order to value their business project, they have been calculating a weighted-average of the different valuation methods. In the weighted-average, DCF with multiples which have around 3,5 higher valuation than the previous methods have been given a weight of 40%, while each of the other valuation methods have been given a weight of 15%. For both times when they have been raising capital, they have been using the same valuation methods, the same weighted-average percentages and the same financial forecasts of revenue, costs and EBITA (earnings before interest, taxes and amortization). However,
the second time they were raising capital they had a higher valuation of their business project compared to the first time they were raising capital.

Except for providing descriptive information about different valuation methods, they have both times when they were raising capital been providing other financial information, more specifically forecasts about profit and loss and cash-flow. The financial forecasts are easy to follow and does include a six-year forecast for “Revenue”, “Costs sold goods”, “Cost personnel”, “Sales, administration, operational costs” and “EBITDA”. There is no further guidance in what assumptions these forecasts rests on or how the calculations were made.

In addition, the company provides information to the investor about how they can make an exit from the investment. They write that the company has plans to become listed on a small stock market within 2-3 years. They also write that they will raise more capital in conjunction with the IPO, and that the potential valuation is likely to be 60-70 MSEK by then. In 5-6 years the company appreciate the value to be 150-200 MSEK, which is 8-11 times more than the current valuation. The documents provide no further guidance in how these future valuations will be reached.

5.2.2 Case 2

The company disclosed a three-year financial forecast with “revenue”, “gross profit” and “net profit”. The fixed costs are broken down further into more detailed posts. There is no further information in how the company reached these numbers.

The company has a separate headline called “return on investment” where it states nothing else than (translated from Swedish): By increasing sales and revenue we will have a positive cashflow during 2018 resulting in an increased stock price. According to our strategy and budget we will multiply our revenue until 2020.”

There is no information about the valuation, but the company has disclosed a newspaper article about an US investment firm’s acquisition of an Irish company. The company in the article is within the same industry as the examined company, but there are no further comments of why this document was included.

5.2.3 Case 3

These entrepreneurs have been using the same crowdfunding platform two different times but during different years (around one year in-between) to raise capital for their business project. In the financial documents, the available information was about funding and financial forecasts for net turnover, costs, EBITDA (earnings before interest, taxes, depreciation and amortization) and net profit. The financial forecast reaches over a five-year horizon and has highly detailed projections of a variety of costs and sales. The sales is divided in a detailed plan of sales of different business units and also includes a the number of projected units sold.

The business plan includes a history of all previous funding and also a plan for future capital requirements and funding. The entrepreneurs have been raising capital through the crowdfunding platform twice. Both times they have described how they are planning on spending the capital.
The second time they were raising capital they had approximately halved their valuation of the company when they applied for capital from the crowd. The company has not reached the goals set in the financial forecasts for the first two years that is included in the first financial forecast. The three years (2018-2019) that are overlapping but has not yet happened has been revised in the financial forecast for the second round of capital. As can be seen in Table 6, the value for the upcoming year (closest in time) has 25% lower projections than in the first financial forecast, but the projection for the last two years has been revised upwards with 27% and 71% respectively. The increase in projected units sold for the same two years is -16% and +3% respectively, not corresponding to the increase in net profit.

The company has a headline called “return on investment” where it says: “We are a scalable business that benefits from economy of scale on the cost side, improving the profit margin which will lead to a dividend to shareholders. We will always be looking for opportunities for an Exit via a Trade Sale or if sales continue to grow as expected via an IPO. “. In another document it is further specified “For 2017, we are now focusing on a 40% reduction in production costs and improvements in the product design.”

5.2.4 Case 4
The financial forecasts include four years with detailed information about the financial posts. The financial forecast also comes with some brief comments about what will be done each year to reach the financial goals. The comments for instance states that they will be market leaders within their niche within two years and “The next coming years (2019-) we will have a strong focus on establishing our service on multiple markets and will increase the speed in which we enter new markets.”. This implies that their exponential revenue and net profit growth rest on the assumption that their product launch will be successful on multiple different markets.

There is no information about how the valuation was made and overall very limited disclosed financial information. Although there are multiple general newspaper articles
about the specific sector they are in, attached amongst the document, none of them refer to the actual company. Comments from the business plan include (Translated from Swedish): “The market is expected to grow by 1200% to USD 335 billion globally within the next 10 years (E&Y) [...] We anticipate to grow in the same pace as the market”, these numbers fit with the disclosed revenue in the financial forecast. There are bullet points in the beginning of the business plan stating that (translated from Swedish): “Exit through merger or listing” and “High yield on the invested capital once we reach success”. No further information concerning when these two milestones will occur.

5.2.5 Case 5
The company discloses a five-year financial forecast with the measures for revenue, gross profit, operating expenses, EBITDA, EBIT, income and net profit. What is different from most other examined the revenue has high growth for year one and two (2148% and 243%), but then a modest almost linear growth for year three to five (5%, 6% and 7% respectively) The company also disclose information about how they are planning on spending the raised capital. There are no comments regarding the valuation but there is a comment about an exit plan for investors: “We are going to be listed on Nordic Stock Exchange by 2020. We expect to buy back 20-30% shares in 2-3 years.”.

There is also a headline called “return on investment” that states: “You may sell your shares whenever you please and at the value you desire. Each year we will estimate the shares value. A very strong interest in the company already exists and many have indicated their desire in buying shares in the company. We believe in a possible valuation of [company name] in one year from now to be 3M euro and within five years to be between 15M euro to 20M euro. For the issued capital, this means an increase of 2 times your investment within one year and up to 12 times within 5 years.”. There is no further financial information that backs up these valuations.

5.2.6 Case 6
The company has a three and a half-year financial forecast in the business plan with extensive information on underlying assumptions such as markets reached and number of future employees. The available information also covers how company will spend the raised capital. The company disclose a post money valuation without mentioning that it is post money and not pre-money, no further comments about how the valuations was made.

5.2.7 Case 7
The company has disclosed a five and a half-year financial forecast with detailed information including information about estimated future markets and employees. A liquidity forecast with cash flows and future financing is disclosed together with the financial forecast. The company does not have any information about how the valuation was reached. There is a document disclosed with information about how to make tax deductions investors in new business ventures can make. Under the headline “return on investment” the company claims (translated from Swedish): “Our goal is to make profit in 2018 and pay dividends to shareholders in 2019”.
5.2.8 Case 8

The company disclose two different five and a half-year financial forecasts, one “conservative scenario” and one “positive scenario”. The available information was about how they are planning on spending future capital and financial forecasts for revenue, gross margin, operating expenses, EBIT, net income, cash flow and also how many units are expected to be sold to reach the figures. Along with the two financial forecasts, the assumptions that the financial forecasts rest on are disclosed. These assumptions include the success or failure in the entry of new markets and the number of units sold on different markets.

Concerning the valuation, the company states that: “Our current valuation is based on the conservative forecast, which we are confident in achieving.”. There are no further comments on what valuation methods were used to arrive at the value. The company comments on the profitability and a potential exit for investors: “Expected ROI is 5 - 22x initial investment in 5 years. [...] Tentative exits within 5-7 years include, but are not limited to, partial or total acquisition by a larger incumbent FMCG company.”

5.2.9 Case 9

The available information was about how they have been raising capital previous years and net turnover, profit after financial items and quick ratio from previous years. They have also included a funding plan for the future and a description on how they are planning on spending the raised capital. The company discloses a three-year forecast for revenues, costs, gross margin, amortization and interest and EBT (earnings before tax). The company has also written (translated from Swedish): “The long-term financial goals are to achieve a turnover around 500 million kronor within 10 years.”. This turnaround would equal a 5668% growth, based on the revenue from the company’s last published financial statement.

The company discloses some key figures (Net sales, EBIT, Sales growth, Solidity and liquidity) for the previous three years. The first two years of the historical figures matches the figures from the financial statements although the figures from the previous year is inconsistent. The revenue and EBIT are 3.5% and 5% lower in the financial statements than in the business plan.

The company comments on an investor exit (translated from Swedish): “[Company name] owners have the ambition to make an exit possible for the shareholders within a period of 3-7 years. Possible scenarios are a market notation or acquisition by another market participant.”

5.2.10 Case 10

The company has disclosed a three-year financial forecast with very extensive information including posts like a special remuneration to manager and costs and sales in great detail. Despite the magnitude of the financial information related to the financial forecast no cash flow forecast has been disclosed. No information about how the valuation was made but there is a brief explanation what the raised capital will be used for.

In the introduction pitch the company writes: “With our proven technology, market demand, and distribution channels we expect investments in [Company name] to generate
high ROI within a few years. We intend to soon finalize some major deals with international distributors and customers, such as [well known distributor] and one of the world's largest military organizations, inducing a compounded annual growth rate of 109% for 2015-2018. We also expect these partnerships to create shareholder exit opportunities in the form of a future acquisition.”.

5.2.11 Case 11
A five-year financial forecast with details like number units sold and cash flow statement, the forecast also comes with a detailed description about some of the assumptions that the forecast relies on. Actual numbers from the previous fiscal year are also disclosed accompanied with a disclaimer that the numbers are rough estimates since the books has not been closed. The company also describes how they are planning on spending raised capital and financial forecasts.

The company states that “An exit is foreseen for 2020 at 700-1300% ROI.” and in another document a few big companies within the same sector are mentioned together with the statement that these companies expand through acquisition, insinuating that this is the exit plan. A few success stories of startups in the same sector together with their purchase sums are also mentioned in the same section. There is no available information about the valuation techniques used to value the company.

5.2.12 Case 12
The available information is an annual report from previous year and a one-year financial forecast with little details. The company describes how the raised capital will be used and also discloses their past funding. The company has a memorandum with detailed information similar to what would be required in an IPO.

Concerning the investors exit the company states “Our exit strategy is to be listed on NGM’s Nordic MTF already this summer”. Today the company is listed on Nordic MTF and has a market value of 14,48 MSEK (based on the latest quarterly report), which is less than half of the valuation of 26,15 MSEK.

5.2.13 Case 13
The company discloses key financial figures from the three previous years and a detailed three year-financial forecast, some assumptions are also disclosed. The available information also includes how the raised capital will be spent. There is very much information but not very much financial information. In the Q&A section a member has shown concern for the accuracy of the financial forecast “Hi, Your financial forecast projects a very strong development in 2017. [...] Can you explain something about how this is possible? I would assume revenues are quite linear to efforts, every new case/deal requires some work and admin. It is a remarkably fast turnaround that you foresee. As we are now getting close to Q2, I assume there are now indications as to if this forecast is still likely or not. Can you comment on that? Thank you!” To this the CEO of the company has replied: “Hi, great question. Until now revenue have been somehow linear to costs as it usually is in early companies and the losses have been investments in product. After a certain point companies like ours have opportunities to increase sales and
volume without having to add more staff, develop new products but benefit from economics of scale. [...]

No further guidance how the valuation was made. In the Q&A section a user has brought up this and asked about what the valuation is based on since it is very high, in the user's opinion. The answer from the company CEO is “Hi, [Company name] has grown very well and the market has matured. We feel that we are very well positioned and priced for future growth. There is not only one, thing that has happened but several. And we deem these to be relevant on our positioning and chase for increased revenue.”

5.2.14 Case 14
The company discloses a four-year financial forecast with detailed information about different costs. There is also three short paragraphs of descriptive information about the strategy that will achieve the financial forecast. The company has described potential investor exits: “Exit strategy: We are open to different possibilities, e.g. IPO or merge/acquisition.” In the same paragraph a well-known competitor is mentioned and a recent success story from an acquisition within the same industry.

The company discloses a document named “Valuation of [Company name]” which gives some guidance in how the valuation was made. There are no numbers or assumptions in the document, only descriptive information mainly about the market potential and intangible assets. The documents have one paragraph concerning the actual calculations: “Lastly is the prognosis of future revenues and profits. The prognosis is carefully designed for the coming years and prognosed after the most probable case at this moment. This projects a future growth both in terms of profits and revenues. Added to this is the fact that the company has no outstanding debt to either banks or other finance companies.” This indicates that the company’s valuation is based at least partly on the same numbers as the financial forecast.

5.2.15 Case 15
The company discloses a five-year financial forecast with both financial information but also non-financial information about markets and number of employees. The financial forecast is accompanied with a few short paragraphs with what is planned to be done year-by-year in order to hold the financial plan. The company discloses information about previous funding and how the new funding will be used.

The company has disclosed information about the valuation, both method used and the underlying assumptions. The valuation method used is multiple valuation method in where the average industry was used, but adjusted downward since the company is at an early stage. The company states: “Since the company still is in the first phase of the business cycle we have conducted a valuation with a multiple of “1” of predicted sales in 2017 instead of a valuation on the forecast of 2020. The reason is that we want to use a cautious valuation model. “

The company has also written a few comments about the ROI and exit strategy: “As an investor, you could potentially expect an ROI of 400 to 500 % in 4-5 years. We are open for a future acquisition but our goal is to IPO.”. In another document the investor exit is discussed more thoroughly.
5.2.16 Case 16
The company discloses a three-year financial forecast with detailed financials for different product lines and distribution channels. There is no information on how the valuation was made. The company mentions previous funding but other than that there is no financial information.

5.2.17 Case 17
The company has disclosed a five-year financial plan with details about units sold, markets and also a brief descriptive explanation in how the goals will be reached. The company has also written what the money will be used for and previous funding. The company has also disclosed a document called “income statement” (translated from Swedish) and disclosed the balance sheet from previous fiscal year.

In the introduction the company states that a break-even will be reached in 2018 and make a 17 MSEK profit in 2020, and states “Then the company should be valued between 200 and 400 MSEK.”. This equals a 667% to 1333% increase in value from the current valuation of 30 MSEK. Concerning an investor exit the company states (translated from swedish): “In order to facilitate an exit for investors, the company plans to list the shares on a suitable stock exchange during 2017/18.”

The company has provided guidance in how the valuation was made, disclosed in the business plan: “Based on the investment and the progress to date, and a positive market outlook, the company is valued at SEK 30 million pre capitalization. This is an increase from the previous valuation of around SEK 22 million, which is caused by improvements in the products in addition to a more thorough market analysis and financial prognosis.

The rough value of the company in the end of the investment period can be calculated by multiplying the profit figure by a suitable p/e ratio. As [Company name] is posed to be a rapidly growing innovation based company, we suggest that a proper p/e is 30 for 2018. For 2019/2020 the lower p/e of 27/25 is suggested, as the company is then maturing and expected to expand a bit more slowly. The company value would then be about SEK 32 million by the end of 2018, 75 million by 2019 and 430 million by 2020. A SEK 6 million investment buying 19% of the company in 2016 would then be worth about SEK 6.2 million by 2018, 33 million by 2019 and 81 million by 2020.”

This tells us that the company used a multiples approach to reach their valuation, which multiple they used and what assumptions the company finds suitable. Another implication is that the valuation seems to be based on the numbers from the financial forecast.

5.2.18 Case 18
The financial forecast reaches over a five-year horizon and has detailed posts about both revenue and costs. A thing that stands out amongst the subcategories of revenue, is that the company has categorized “funding” as revenue in the financial forecast. In another document it is stated that the company has received donations in the past and will be dependent on donations also in the future, which might be the what the “funding” refers to. Furthermore, the company states (translated from Swedish): “2015 the revenue was 60 per cent higher than anticipated”

45
Table 7. Revenue growth

<table>
<thead>
<tr>
<th>Year</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue</td>
<td>5050000</td>
<td>8100000</td>
<td>11700000</td>
<td>15300000</td>
<td>23700000</td>
</tr>
<tr>
<td>Revenue increase</td>
<td>3050000</td>
<td>3600000</td>
<td>3600000</td>
<td>8400000</td>
<td></td>
</tr>
<tr>
<td>Revenue growth rate</td>
<td>60%</td>
<td>44%</td>
<td>31%</td>
<td>55%</td>
<td></td>
</tr>
</tbody>
</table>

As can be seen in Table 7 the revenue is that it follows a approximately linear pattern the first three years of the forecast, and then bumps in year five. There are no further comments about the revenue bump in 2020.

5.2.19 Case 19

The company has a five-year financial forecast with detailed information about number of units sold, sales of different product lines and detailed cost accounts. The company also have detailed plans for how the raised capital will be spent.

The company also discusses potential investor exits: “EXIT You can sell your shares whenever you please and to what value you want. A customary refusal clause applies. Each year, we will estimate the value of the shares. We already have a very strong interest in the company and many show their interest in buying shares in the company. Every five years we will jointly conduct an independent valuation of the company's values and in connection with this, we also offer all shareholders to make an exit in case they want to.”

There is no information about how the valuation was reached, this has also been pointed out by a potential investor in the Q&A section: “Intresting project but I do not really get how you evaluate your company to 10 milj sek today though the products are not yet on the market? do you already have orders from retailers/chains? Regards.”. Unlike other questions in the Q&A section, the question about the valuation has not been replied.

5.2.20 Case 20

The company does have three-year financial forecast with only the posts revenue and profit. There is no further details regarding the financial forecast, but they have long-term goals for profit margin and solidity. The three previous years financial statements are also disclosed, the latest of them has not been reviewed by the accountant yet which is clearly stated. The income statements and balance sheets from previous years also comes with a few paragraphs of descriptive information. The company writes what their dividend payout policy is and disclose their policy for salaries and remunerations. The company has a reminder that investors can make a tax reduction for investing in startups and a brief description how this is made. In the memorandum it is stated that investors can subscribe to press releases and financial reports on their web page.

The company has a disclaimer addressed to investors and shareholders (translated from Swedish): "Please note that this memorandum is merely a coherent descriptive description of the company's activities and position. The information in the document is not meant to be complete or exhaustive and shareholders and investors advised from
basing their investment decisions only on the information contained in this memorandum.”

Furthermore, the company writes that the memorandum is written in the same way as the prospects demanded by Finansinspektionen in IPOs. The company also clarifies that the documents has not been reviewed or audited by Finansinspektionen.

The company has commented the valuation but without further comments regarding what methods have been used (translated from Swedish): “The Board estimates that the valuation reflects the risk level and potential of the Company as well as the development since previously issued shares.”

5.2.21 Case 21
The six-year financial plan has the two posts “revenue” and “expenses” and some descriptive information about some of the underlying assumptions. They also have a detailed marketing plan with costs for different marketing related expenses. There is little financial information about the company and in the Q&A section a potential investor has asked: “Good afternoon. What is the revaluation of the investment? are there dividend?. The company intends to repurchase the shares of the shareholder? Best regards” To which the company has replied: “Good morning from Sweden. We are planning to start pay dividends the second year, 70% of net profit due to the the high profit margins. Investment break even beginning of year three. Yearly dividend of 18 times your money year six when we plan for an exit. We expect a company value of 5 x net profit year six: €16,000,000. No future plans to buy back shareholders as of now. For more specific numbers please look under Documents, Financial forecast, Return on investment. If you have any further questions, please let me know.” No such documents are to be found anywhere amongst their other documents, although they might have been removed after the fundraising campaign.

5.2.22 Case 22
The company has disclosed a five and a half-year financial forecast with detailed information about key metrics, the different revenue sources, costs and some descriptive information about the underlying assumptions. There is no information about exit strategies for investors and not any guidance in what the raised capital will be used for.

Regarding the valuation the company writes: “The way we have come up with our valuation is that when we took in our first round of funding in November 2012, we raised a total of 4.4 MSEK at a pre money valuation of 22.6 MSEK. Since then we have completed the technology platform and we have also launched with our arena concept with proven traction. Since the initial round of investment we have invested an additional seven million in equity and shareholder loans. Therefore we believe that a valuation at 30 MSEK is fair and reasonable.” A potential investor has commented on this: “in your valuation document you write that you raised 4.4m sek in nov 2012. Looking at your company financials end of 2012 shareholder's equity was only 1.7m sek. How does that work?” to with the company CEO has replied: “Hello [Name], The money raised in nov 2012 was through a convertible debenture that was converted into equity at the end of 2013.”
6. Analysis

In this chapter we will tie together the previous theoretical knowledge about financial information, overconfidence and information asymmetry with what we have found out from examining the companies on the equity crowdfunding platforms. To evaluate the financial information the main judging criteria has been to examine the accuracy and adequacy.

6.1 Financial forecasts

One of the reasons to publish a financial forecast is to reduce the information asymmetry (Hirst et al., 2008, p. 322, 324). This means that the people within the company can share their estimations of the future to reduce the information gap towards the outside investors. With this in mind the fact that many companies on the equity crowdfunding platforms disclose multiple-year financial forecasts would be good news. But some research (e.g. Lang et al, 2000; Armstrong et al. 2007) show that financial forecasts can also be intentionally tempered by the managers to benefit the company. If this holds true on the equity crowdfunding platforms it would be a potential threat against the information quality. Previous research has also shown that people (especially entrepreneurs) have shown to be suffering from optimism bias (e.g. Cooper et al., 1988; Camerer & Lovallo, 1999; Simon & Shrader, 2012; Koellinger et al., 2007).

The main thing we were evaluating in the financial forecast was the accuracy. We look at the accuracy of the estimated revenue, costs and profit in a financial forecast by comparing with the actual numbers from income statements. We also looked for systematic upwards bias in the financial forecasts since overconfidence has been proven amongst entrepreneurs in previous literature. We did this by examining in hindsight if the financial forecasts were overestimated more often than they were underestimated.

The accuracy of the financial forecasts varies a lot in our sample. This might not be very strange considering that the companies in the sample are of different size and ranges from newly formed companies to mature companies. From an investors perspective, variance in revenue and profit is a welcome surprise while downside variance on those financial posts is disappointing news. Therefore, we also checked if the variance was systematically biased in one or the other direction where. Concerning costs, the opposite generally holds, lower costs than anticipated would make an investor happy ceteris paribus.

Publicly traded companies rarely disclose financial forecasts stretching more than one or two years into the future (Armstrong et al., 2007, p. 184). In our sample the majority of the companies shared five-year financial forecast, and some even more. Furthermore, the companies in our study are small companies, many of them with unproven business models and highly volatile revenue. Hirst et al. (2008, p. 326) suggests that some companies do not make as accurate forecasts as possible, but instead manipulate the numbers in a way that benefits the company. Furthermore, Lang et al. (2000, p. 627) claim that small companies are more likely to engage in such strategic behavior.

Lang et al. (2000, p. 652-653) also found that this strategic behavior is likely to occur before IPOs, in where the forecasts are exaggerated. The purpose of this strategic behavior might be to get a higher valuation and therefore receive more capital in the IPO (Lang et al., 2000, p. 652-653). The results from our study on equity crowdfunding points
in the same direction as Lang et al.’s (2000) conclusions. In our sample 23 out of 28 observations showed lower profit than projected in the financial forecast. As can be seen in Table 3, the profits were on average four and a half times (451%) lower than expected. This is statistically significant if tested with the assumption that an unbiased financial forecast would differ as often and as much in both directions.

The fact that financial forecasts were highly overestimated indicates that Lang et al.’s (2000) conclusions could hold true in the online equity crowdfunding setting as well. The incentives behind strategic behavior are likely to be similar in companies selling their shares on equity crowdfunding platforms as offering them to the public in an IPO. But as we have discussed previously the legal requirements concerning disclosure have not been the same for the two.

The revenue and profit are significantly biased towards being too high in our sample, which indicates that the accuracy of the financial information is questionable. As Table 4 shows, the profits were overestimated by 451% on average, which is arguably inaccurate. Armstrong et al. (2007, p. 200) also show that the profitability on average is exaggerated every year of their researched five-year forecasts in venture backed companies. Armstrong et al. (2007, p. 200) also show that the further accuracy and exaggerated profitability increases the further in the future the financial forecast goes. We have mostly looked at the first year of the financial forecasts and the likelihood is high that the accuracy will be even worse the further into the future the forecasts are.

Table 4 shows that the actual revenue was on average less than half (56%) than the forecasted, which would also come as bad news for investors. Armstrong et al. (2007, p. 200) states that the forecasts of venture backed firms on an average underestimate the revenue of the first year, while overestimating on all other time horizons. This is likely to be strategic behavior on the managers behalf since revenue in the near future is easy to verify while forecasts long in the future are hard to falsify (Armstrong et al., 2007, p. 203). Armstrong claims that young firms in need of capital can be perceived as more realistic if the near-term forecasts are pessimistic, but at the same time has incentives to be optimistic about long-term forecasts to attract investments (Armstrong et al., 2007, p. 203). The same logic could be applied to companies seeking capital on equity crowdfunding platforms, but the results of this study does not show pessimism in the short-term.

However, before we write off Armstrong et al.’s (2000) findings about short-term pessimism and long-term optimism we have to revisit Case 3 and Table 6. The company has applied and received capital on the equity crowdfunding platform twice with two years apart from the funding rounds. The financial forecast regards the same years (2016-2020) but has been revised for the second round. The year closest in time has been revised downward (-25%) in the second investment round, but the second and third year (year four and five in the first forecast) has been revised upwards (27% and 71% respectively). In other words, the near future is now more pessimistic than previously while the distant future is even more optimistic than before. What is even more remarkable is that the produced quantity does not follow the same pattern (-28%, -16% and 3%). This could be seen as an indicator that the company engages in the type of strategic behavior Armstrong et al. (2007, p. 203) describes.
Another indicator of Armstrong et al.’s (2007) strategic behavior can be found in Case 18. If we look at Table 7, we see that the company projects a 3.05 MSEK increase in revenue from the first to the second year of the financial forecast, then 3.6 MSEK increase for two years in a row and a bump up to 8.4 MSEK increase between year four and five. There might be a logical explanation for the sudden revenue increase in year five, but such explanation is not provided in the disclosed documents. There are also examples of the opposite, like Case 5 expects fast growth for year one and two but have more conservative growth assumptions for year three to five.

The costs in the financial forecasts show a different pattern than the revenue and profit in the sense that they on average also are overestimated and therefore pessimistic. As Table 3 shows, 21 of the 28 observations showed higher costs in the financial forecasts compared to the actual outcome in the income statements. Costs are on average overestimated by 26%, which is less than the overestimation of revenue. The fact that the costs are overestimated is not in line with Armstrong et al. (2007, p. 200) that show optimistic tendencies for the first two years of the financial forecasts, but pessimistic cost projections in year three to five. One explanation that would be in line with Armstrong et al.’s (2000, p. 203) previous argument that a firm could try to be pessimistic in the short term to be perceived as realistic in their forecasts.

We will also provide an alternative explanation for the lower costs than anticipated than Armstrong et al. (2007). We believe that the lower costs could have to do with the flipside of the optimistic revenue; lower sold units than expected. By this we mean that a big part of the costs in most companies are variable costs directly tied to the number of produced products or services. Fewer produced units would therefore mean lower costs than anticipated. In other words, the pessimistic cost forecast could be a result of overly optimistic forecasts about units sold. With this explanation the pessimistic cost forecasts are in fact not contradicting the optimism bias, instead it suggests overoptimism tied to produced units. The fact that revenue is significantly lower than expected implies that fewer units has been produced. Although we do not know this for sure since the income statements only reveal revenue in monetary terms and not in units sold.

Until now we have primarily focused the analysis on literature explaining the error as strategic behavior. Another explanation for the systematically overestimated forecast could be optimism bias amongst the entrepreneurs. The difference in regard to strategic behavior lies in the intentions and incentives. This study cannot prove one or the other, only give two potential explanations. One form of overconfidence bias is the better-than-average effect which regards people's tendency to overestimate one’s own ability in relation to others (Taylor & Brown, 1988, p. 195). The study shows that the financial forecasts were significantly biased towards being too optimistic regarding both revenue and profit. This is an indication that the better-than-average effect is present also amongst the entrepreneurs seeking capital on equity crowdfunding platforms. It is likely that many entrepreneurs have encountered the statistics on startup failure but perceive themselves to be better than the rest, just like previous research have suggested (e.g. Cooper et al., 1988; Dun & Bradstreet, 1967, cited in Kahneman & Lovallo, 1993, p. 27).

Unrealistic optimism is a form of optimism bias and refers to when people have too optimistic view on future outcomes (Skala, 2008, p. 40). The effects of the unrealistic optimism are usually higher when people contributed or invested emotionally in the events (Skala, 2008, p. 40). This would also explain the systematic overestimations of
revenue and profits that we found among our sample. The entrepreneurs have invested lots of capital, time and pride to succeed in their projects, which would make unrealistic optimism a plausible explanation.

Illusion of control is another form of optimism bias that states that people in general believe they can influence random events more than they actually can (Skala, 2008, p. 40). By looking at the comments and assumptions regarding financial forecasts we find reason to believe that illusion of control might also be an explanation of the general tendency to overestimate profits and revenue. The disclosed assumptions reveal that the forecasts often rest on assumptions on success in every product launch and on every market entry, e.g. Case 12 that has forecasted to enter new markets at an exponentially increasing rate. Success on new markets and new product launches is something the companies can control to some extent, but there are also external factors that seem to have been overlooked.

The results indicate that overconfidence bias is present amongst the entrepreneurs on online equity crowdfunding platforms resulting in inaccurate financial forecasts. Entrepreneurs often keep running poorly performing business longer than rationally motivated, causing unnecessary financial harm to them personally (Shepherd et al., 2009, p. 143). The overconfidence seen in the financial forecasts clearly shows why. If entrepreneurs within the companies really believe the financial forecasts are accurate they are likely to make poor investment decisions. For example, it might in hindsight have been appropriate to cut loss and liquidate some of the companies, instead further funding is searched and business unwanted by the market are kept alive. Overly optimistic financial forecasts and unprofitable business concepts are not only affecting entrepreneurs. Investors that rely on the overly optimistic forecasts for valuations might also be misled about the companies’ risk and value. Therefore, the indicators of overconfidence on equity crowdfunding platforms should be considered a potential threat to the legitimacy of equity crowdfunding.

We have found indicators that financial forecasts are systematically overestimated, but with the used research methods we cannot prove whether it is due to strategic behavior or optimism bias. Based on previous research both explanations seem plausible and should be examined further in future research. We will therefore end the section about financial forecasts by suggesting two propositions that future researchers can test further.

Proposition 1: Entrepreneurs on equity crowdfunding platforms engage in strategic behavior in order to attract investors and achieve higher valuations.

Proposition 2: Entrepreneurs on equity crowdfunding platforms are suffering from optimism bias.

6.2 Valuation

The price the investors have to pay for the company shares determines how successful the investment will be for them. Therefore, the valuation methods and assumptions the company has used to reach that price are important pieces of information for investors. The results discussed in previous section has indicated that the financial forecasts could be biased to the investors disadvantage. If the valuations are based on these potentially misleading forecasts the valuation could arguably be flawed too. This might be what
Miloud et al. (2012, p. 153) refers to when they suggest that a good startup valuation is not just a number exercise of made up numbers. At the same time, it is important to keep in mind that value is subjective, and the following discussions are not meant to be about accuracy as the previous section, but rather about adequacy and the extent of disclosed information. Let us not forget that the price in all of the cases has actually been agreed upon by investors since all of the cases have been successfully funded, giving the valuations legitimacy.

The majority of the companies in our sample have not disclosed information about valuation method or assumptions. Questions regarding the valuation can be found in among the commentaries in the companies Q&A section on the crowdfunding page (e.g. Case 19 & 21), showing that valuation information is sought after by investors. Concerning the adequacy of financial information most companies fail since no guidance is disclosed.

One company (Case 1) stood out and has disclosed an entire document with detailed information about valuation and assumption, therefore we will analyze this case extensively. The company uses a weighted average of multiple different methods like advocated in the literature (IPEV, 2016, p. 39; Dittmann et al., 2004, p. 634). The disclosure holds a high level with disclosures about methods, assumptions, disclaimers of risks with using the methods and even short descriptions about the valuation methods. Four of the valuation methods (scorecard, checklist, venture capital, DCF with LTG (discounted cash flows with long term growth)) reached similar values while the DCF with multiples approach yielded a value more than three times higher than the others. The valuation document reveals that the company applies the highest weight (40%) on the DCF with multiples, despite the contradicting results.

In Case 1 the company bases the valuation primarily on a method based on their financial forecast, which usually gives more unreliable value than using historical figures (IPEV, 2016, p. 36). The valuation method with the highest weight is a multiple approach based on future performance. In the IPEV recommendations it is stated that such approaches are best fit for companies with for mature companies with stable recurring earnings (IPEV, 2016, p. 34). The Case 1 company failed to meet their forecasted profit by 86.35%, and therefore the choice applying the highest weight on forecasted figures is highly questionable. Miloud et al (2012, p. 153, 170) also states that it is usually a bad idea to base a valuation on forecasted figures, instead inputs such as the team or industry outlook should be considered. These soft values are what the scorecard, checklist and venture capital method seem to be evaluating, although are given low weights.

The choice of applying a much higher weight on the highest valuation method could also be a sign of the same strategic behavior that Lang et al. (2000) found to be present in IPOs. The rationale there was that managers intentionally overestimated financial forecast to receive a higher valuation and therefore receive more capital for the same amount of equity (Lang et al. 2000, p. 652-653). The manager(s) might have liked the outcome from the DCF with multiples more than the reliability of method itself. The choice of weight could be the result of strategic behavior more than a belief of methodological fit. This is merely a potential explanation and an indicator of strategic behavior and should not be seen as proof.
However, the valuation methods and assumptions are clearly stated and disclosed in Case 1, which gives the investor the opportunity to decide whether to agree on the valuation or not. We perceive the information regarding the valuation to be *adequate* in Case 1, even if the *accuracy* could be debated.

Case 17 provides some further insights in the valuation process. They recommend using a multiple approach based on forecasted figures when valuing their company, similar to the method used in the Case 1 company. Case 17 missed their profits in the financial forecast by 80.49% for year one and 77.70% for year two, similarly to the 86.35% in Case 1. This leads us to further question the fit for using the forecasted numbers in the valuation of companies at an early stage. Another noteworthy detail is that the company gives suggestions as to what the future value could be; 32 MSEK 2018, 75 MSEK 2019 and 430 MSEK by 2020. This pattern reminds of the previously discussed long-term optimism described by Armstrong et al. (2007, p. 203), in where the companies are likelier to engage in strategic management far in the future, since it is harder to prove wrong. Although the assumptions for the valuation in Case 17 are clearly stated and similarly to the information concerning the valuation could be regarded *adequate* despite the potential flaws in *accuracy*.

Case 21 gives some guidance in how the company is valued as a response to a potential investor in the comments in the Q&A section. The company refer to a future value of 16 000 000€ in year six since that is five times their net profit in the forecast. This insinuates that a multiple approach based on future net profits was used to value the company. The company was founded the same year as the capital was raised and the current market value is around 5.67 MSEK. The net profit in the financial statement is 101.74% lower than in financial forecast compared. Based on the failure to meet the numbers the first in the year of business in the financial statement, valuation in year six seems a little optimistic and therefore lacking in terms of information *accuracy*. The lacking information regarding the valuation also make the information *inadequate*.

In Case 22 we also get some guidance in how the valuation was reached. The company begin by referring back to the valuation in a previous investing round three years earlier. This could be regarded as a form of market approach, as the company uses a confirmed market value from a previous occasion (IPEV, 2016, p. 29). When it comes to startups, it is important that the previous occasion is recent because of the value of a young company is very volatile (IPEV, 2016, p. 29). Three years has passed between the investment rounds, which is a long time for a company of this size and maturity. The valuation in the new crowdfunding campaign is 30 MSEK and in the previous round 22.6 MSEK. The higher valuation is motivated by the funding they have raised 7 MSEK since then and invested the raised capital. This could be perceived as a type of replacement cost approach, since they seem to value the new assets close to the cost (IPEV, 2016, p. 41).

To look at the price in the sale of similar companies is regarded as a valuation method within the market approach (IPEV, 2016, p. 29). Several companies (e.g. Case 2, 11 & 14) in our sample has posted success stories of similar companies. We do not know the intention of mentioning other companies’ success, it could be random name dropping to show the potential of the company in advertisement purpose. It could imply that the companies want to be benchmarked with these other companies when considering the valuation. A simple market approach method is to check if equity in the company has been sold recently, in that case the value used in that transaction could be a good starting
point for a valuation (IPEV, 2016, p. 29). In most cases we have examined, the companies have chosen benchmarks that are on one hand in the same industry, but on the other hand at a different stage of maturity. The intention of posting these success stories might not be to help the investor to make sound investment decisions but rather be the kind of strategic behavior discussed in Lang et al. (2000). This is since the companies only seem to show the best-in-class examples without mentioning more similar in term of size and maturity. In order for this information to fulfil the adequacy requirement we would find it appropriate to disclose further information with a more nuanced picture of the industry.

The analysis of valuation has indicated that some entrepreneurs use the numbers from the financial forecasts to come up with the company value. Since we in previous section (6.1) found indicators that the financial forecasts are overestimated, further research should be conducted to find out if the value accurately reflects the (unbiased) underlying risk of the company. In this section we have also proposed possible indicators of overconfidence and strategic behavior in regards to the valuation process. Therefore, we will end this section of value by suggesting the following proposition.

Proposition 3: *The value of companies on equity crowdfunding platforms is overestimated due to optimism bias and/or strategic behavior and does not fully reflect the underlying risk of the company.*

6.3 Overall Information Quality

The general impression was that the quality of the financial information varies a lot. Some companies pitch an idea, product or service, but has included almost no financial information at all (e.g. Case 16). Others have endless detailed information about both historical- and forecasted future financial figures. One company (Case 20) have even (according to themselves) written the documents in accordance with the same requirements as if it was an IPO, but clarifies that the documents has not actually been reviewed by Finansinspektionen as it would in case of an IPO. This implies extensive information that is expected to hold a high standard so that investors can make rigorous analyses based on the information. Case 12 also discloses a similar document as the one by Case 20.

The information should be adequate and accurate and in some of the studied cases we have found a few examples in which this might not be the case. Case 9 has disclosed historical financial information from previous years, in where the most recent year does not match the information for the same year in the financial statement. This is likely to be due to that the books have not been closed for that fiscal year, although this is not stated making the information deceiving. Other companies in the sample (e.g. Case 11 & 20) have disclosed numbers from a fiscal year without closed books but in these cases it is clearly stated. Disclosing misleading information like in Case 9 could be considered a threat against the accuracy and adequacy of the information.

In almost every examined case there has been information about the future value and return on investment for the company. Some of this information might be useful for investors, but in terms of adequacy there is usually very little additional information to tell how reliable the information is. Without disclosing the underlying assumptions to these calculations, they might as well be pure guesses. Overall the accuracy concerning the financial information quality is arguably low since the financial forecasts in our
sample are systematically overestimated. Concerning the adequacy of financial information the results vary. A few companies disclose assumptions and methods regarding the valuation and make it easy for investors to follow their calculations, but the general tendency in the sample can be considered inadequate. In next section we will discuss the implication of these results further.
7. Discussion

In this section we tie together the previous sections with our own insights and opinions. We will give recommendations based on the results of the study and knowledge we have gained while conducting the research. Furthermore, we will discuss some practical- and theoretical contributions and also give recommendations for further research.

7.1 The Quality of Financial Information

The question remains; how is the quality of financial information on Swedish equity crowdfunding platforms? In terms of accuracy we would like to suggest that the study has provided strong indications that companies overestimate their financial forecasts. The study has shown that the financial forecasts are generally highly unpredictable even one year into the future. Despite this most companies insist on giving multiple year forecasts, some provide up to six-year detailed projections of financial posts. We do not have a magic crystal ball to measure the accuracy of the long-term projections, but it is highly likely that they are even more inaccurate than the short-term financial forecast. Furthermore, we have found some indications that the valuation is based on these financial forecasts, meaning that many of the investors might not get the bargain they were looking for. This systematic error in the forecasts could hurt the long-term legitimacy of equity crowdfunding.

Concerning the adequacy of information, the results are mixed. Some companies have provided information about assumptions and methods concerning the financial forecast and valuation. Equity crowdfunding is a form of funding quite similar to regular IPOs, which have legal requirements concerning information that probably just one company would fulfil (Case 20). There are also companies with very little financial information for investors to rely on. These companies are often at a very early stage, more concerned with pitching an idea and vision, rather than any numbers. In these cases, it is perhaps better that the entrepreneurs are out in the field improving their products than to make guesses about a future filled with uncertainty. However, if such early stage companies choose to disclose five-year financial forecasts without having a finished product, it is a potential problem. In our opinion no information is less misleading than financial forecasts with pure guesses, if the assumptions are not included.

During our case studies we have sometimes gotten the impression that the financial documents are more of a marketing pitch rather than informative documents to help investors. With very few exceptions the future the entrepreneurs describe almost certain success with incredibly high future valuations and astonishing return on investment. A few of the companies might even get there, but the odds are against them. To produce the numbers is time consuming and to audit them would be expensive, which in the end would result in higher costs within equity crowdfunding. The question is if investors are willing to bear this cost to get higher quality financial information.

Just like the relationship between buyers and sellers of used cars in Akerlof (1970), we perceive that there is not enough information for investors to distinguish the “lemons” on the equity crowdfunding setting. Akerlof (1970, p. 495) concludes that a market in which the buyer cannot tell the “lemons” from the real deal will eventually end up consisting only “lemons”. To prevent this from happening to the equity crowdfunding market, better financial information needs to be provided by the entrepreneurs.
7.2 Recommendations

Since we have found the accuracy and adequacy of the financial information to be lacking we have some recommendations for different stakeholders. The SOU 2018:20 evaluation suggests legal changes to ensure better investor protection (Statens Offentliga Utredningar, 2018, p. 15,19). We also think that there is a need to improve the situation for investors. It is likely that the suggested laws towards crowdfunding would mean increased the costs for the crowdfunding platforms, entrepreneurs and investors (Statens Offentliga Utredningar, 2018, p. 476). At the same time, the crowdfunding would get higher legitimacy and be a more attractive investment form that appeals to more people (Statens Offentliga Utredningar, 2018, p. 476). We fully agree that there is a need for further investor protection to maintain the legitimacy of equity crowdfunding.

On most equity crowdfunding platforms there can be found a disclaimer of general risks that investing in young companies is involved with high risk. We would like to see more responsibility taken by the crowdfunding platforms to ensure investors are aware of the risks as they would if they were a financial institution. We also think that the crowdfunding platforms need to have rules about the financial information the entrepreneurs provide. This includes both accuracy and adequacy. The information should be accurate, and if the accuracy cannot be ensured it should come with disclaimers and assumptions used to ensure the adequacy. Finansinspektionen, Sweden’s financial supervisory authority should make this happen. Their goal is to ensure the stability and efficiency and protect investors in the Swedish financial system (Finansinspektionen, 2018). They have guidelines and requirements for similar situations such IPOs. Finansinspektionen should publish similar guidelines for equity crowdfunding. The law proposed in the Inquiry’s remit (SOU 2018:20) also recommends Finansinspektionen to be granted more authority in equity crowdfunding matters (Statens Offentliga Utredningar, 2018, p. 23).

We also think that both entrepreneurs and investors need more information about forecasting and how optimistic bias or strategic behavior could lead to bad projections. Kahneman and Lovallo (1993, p. 25) argues that an outside view generally will result in better forecasts. We believe that most entrepreneurs are currently having an inside view when creating the financial forecasts of their own companies. This would imply that they are more focused on case specific details rather than looking at statistics (Kahneman & Lovallo, 1993, p. 24-27). Entrepreneurs on the equity crowdfunding platforms are likely to make better forecasts if they had access to statistics and information in how to use it. Therefore, we find it appropriate for the equity crowdfunding platforms to provide documents with methods, tips and guidelines concerning financial forecasting. The awareness of optimism bias and inside- and outside view itself could potentially improve entrepreneurs’ forecasts. For the bigger companies a consultant or an external auditor could provide an outside view and improve the numbers in the financial forecast. But such expertise comes with a high price tag and is not an option for most startups.

7.3 Practical contribution

As the recent report SOU 2018:20 has shown, there is an urgent need for changes in the equity crowdfunding setting to ensure the long-term legitimacy and survival of crowdfunding. The practical contribution of this study is that it has highlighted and explored an important threat to the legitimacy; the quality of the financial information.
We have to some degree confirmed the conclusions of SOU 2018:20 in the sense that we have also found a dire need for more investor protection within online equity crowdfunding. Many stakeholders could find use for more knowledge within the subjects we have highlighted. However, the subjects need further research to confirm the indications we have found in this study.

This study is also likely to be of interest for investors, who might change their investment strategies after reading about the inaccuracy of the financial forecasts and valuation. We also think that entrepreneurs could really benefit from reading this study, to get an “outside view” as described previously and become aware of their potential biases. Another stakeholder that would benefit from the study is the owners of the crowdfunding platforms, in order to self-regulate to maintain legitimacy. Venture capitalists and angel investors could also have use for the knowledge about financial forecasts, although the inaccuracy is probably a known and anticipated amongst professionals. Finansinspektionen could use the study as inspiration when creating the much-needed guidelines for companies seeking equity crowdfunding.

7.4 Theoretical contribution

The study has shed light upon the new and undiscovered area of equity crowdfunding. The main theoretical contribution of this study is that it has confirmed that several themes are worth to look further into.

One of the findings in this study is that the financial forecasts in young companies are highly inaccurate. We have suggested two plausible explanations for this. Optimism bias is a well explored research both within psychology and economics. We have suggested it to be the reason for overestimated financial forecasts. Previous research has mainly focused on optimism bias in analysts’ forecasts, while we have explored the entrepreneurs’ optimism bias in an equity crowdfunding setting. This broadens the understanding of both financial forecasting and optimism bias.

We have also proposed strategic behavior as an alternative explanation for the exaggerated financial forecasts. Previous research by Armstrong et al. (2007) have suggested strategic behavior as an explanation for overestimated forecasts in venture backed firms and Lang et al. (2000) have found indicators of strategic behavior in IPOs. This study broadens the context of these findings to the equity crowdfunding setting. Neither of the explanations optimism bias or strategic behavior has been proven in the study, but has confirmed that these might be lucrative research topics. Based on the previous research and the insights from the analysis we have made three propositions for the studied concepts. We hope that our propositions will inspire future researchers and lead to viable studies.

We have also provided a framework for evaluating the quality of financial information in terms of accuracy. To gather financial forecasts and compare with outcomes from income statements has been done before. Although to use the binomial distribution to answer whether the forecasts are systematically over- or underestimated has not been done before as far as we know. This can be used in future research to evaluate overconfidence bias or strategic behavior, not only in the equity crowdfunding setting.
7.5 Future research

Our findings in this research show that information quality on equity crowdfunding platforms is a feasible research topic for future research. As of now there is very little known about equity crowdfunding in general, and even less about the information quality on the crowdfunding platforms. Our study found some interesting indicators and opened up several doors for further research.

The brief history of equity crowdfunding has made generalizability a low priority for us due to the poor data availability. But as time goes by and more observations can be attained we highly recommend a follow-up study on financial forecasts to make the results more generalizable. The brief history has also limited us to compare the first year and in a few cases the second year of the financial forecasts since that was the only data we could get access to. It would be highly interesting for future researcher to measure the accuracy of the long-term financial forecast. This could be compared with the findings of Armstrong et al. (2007, p. 200) that states strategic behavior is worse in the long-term.

With our chosen method we have not been able to prove whether the overestimation was due to intentional strategic behavior or unintentional overconfidence bias. Both are plausible explanations with previous research to back them up. As proposition 1 and 3 suggests, examining the entrepreneurs’ intentions would be an interesting path for future researchers. Such research could approach the entrepreneurs with a qualitative study in order to understand the motives.

As we have suggested in proposition 3, another interesting research topic would be to examine whether the value of startups on equity crowdfunding platforms really reflects the underlying risk. This can be questioned since the entrepreneurs have shown indications of optimism bias and/or strategic behavior which could be reflected in the price. By that we mean that the investors pay for more than they actually get when the risk-return relationship is considered. This risk-return relationship could be examined using quantitative methods, for example testing whether capital asset pricing model (CAPM) can be used on startups seeking capital on equity crowdfunding platforms.

Our study has in a sense examined the supply of financial information on equity crowdfunding platforms, another interesting approach would be to examine the demand. A research topic could be to study if investors demand financial forecasts and how they use the information. Such a study could also examine what financial information the investor actually wants and needs. It would also be interesting to flip the tables and find out why entrepreneurs disclose financial forecast; whether the purpose is marketing to attract investors or to help investors to make sound investment decisions for example. What if investors do not demand financial forecasts and entrepreneurs only writes them for investors sake? These questions could be examined qualitatively by interviewing or handing out questionnaires to entrepreneurs and investors.
8. Conclusions

How is the quality of financial information on Swedish equity crowdfunding platforms? We find that the quality of the financial information is often highly inaccurate and inadequate. We have focused on the financial forecasts and valuation to assess the quality of financial information. We have combined both quantitative and qualitative measures to be able to both examine and understand but still be able to generalize to some extent.

We have examined financial forecasts quantitatively and found them to be so inaccurate that investors could be misled by relying on them. The financial forecasts are significantly systematically overestimated, meaning that they are overestimated much more often than underestimated. This poses a threat to the legitimacy of equity crowdfunding in the long run.

We find that the financial forecasts are significantly overestimated in terms of revenue and profit. We have discussed two potential explanations for this. Overconfidence bias amongst the entrepreneurs could explain the overestimations. Another explanation is that the entrepreneurs engage in strategic behavior in order to meet their funding goals. The difference between the explanations lays in the intent, whether the entrepreneurs are aware of the inaccuracy when making the forecasts or not.

We have also examined qualitatively how the valuation is made on equity crowdfunding platforms. In most cases there is no information concerning the methods and assumptions used to come up with the valuation, suggesting that the information is inadequate. In a few cases we have found evidence that valuations are based on the same financial forecast we showed was systematically overestimated.

Our recommendations are in line with the recommendations in SOU 2018:20 in the sense that we perceive that investor protection regarding equity crowdfunding needs to be improved. The long-term survival of equity crowdfunding relies on trust between investors and entrepreneurs. In this study we have found reasons to believe that this trust could be jeopardized by inaccurate and inadequate financial information. Based on previous research and the insights from our study we have made three propositions:

Proposition 1: Entrepreneurs on equity crowdfunding platforms engage in strategic behavior in order to attract investors and achieve higher valuations.

Proposition 2: Entrepreneurs on equity crowdfunding platforms are suffering from optimism bias.

Proposition 3: The price of companies on equity crowdfunding platforms is overestimated due to optimism bias and/or strategic behavior and does not fully reflect the underlying risk of the company.
9. Research Quality

It is important for researchers to assess the quality of their research and make sure to be clear about what their conclusions are and even more importantly what they are not, to avoid misinterpretations of their results. In this section we will briefly discuss some common quality criteria for research.

Reliability and validity are widely perceived as more applicable to positivistic and purely quantitative research (Golafshan, 2003, p. 599-600; Creswell, 2009, p. 190). However, Golafshan (2003, p. 602) argues that it is important to evaluate the quality of research in terms of reliability and validity regardless of research paradigm to determine good research from bad. Furthermore, Creswell (2009, p. 220) argues that researchers using a mixed-methods approach, has to regard the validity issues of quantitative research, qualitative research and unique issues of mixed-methods.

9.1 Judgement Criteria for Quantitative Methods

9.1.1 Reliability

Reliability concerns the repeatability and replicability of the results of the study (Golafshan, 2003, p. 598). This concern whether the measurements in the study would be the same if repeated using the same methods and population and whether the measures are stable over time (Kirk and Miller, 1986, p. 41-42). The numbers in the financial forecasts and financial statements are assumed to be correct (even if the writers of the documents might be biased). When moving the data from the financial forecasts, income statements and valuations into MS Excel, we have both been present in the data gathering and calculations to avoid misrepresentations of the numbers. Furthermore, we have always double- and sometimes triplechecked the numbers to ensure that the differences between the numbers in the financial forecasts and financial statements are due to biases on behalf of the entrepreneurs and not input errors.

A threat to the reliability in our study could be our interpretations and translation of some financial concepts in the financial forecasts. The financial forecasts in some instances has been vague in their description of concepts, primarily the term “results”. In most cases it is specified in the financial forecast if it is EBITDA (earnings before interest taxes, depreciation and amortization), EBIT (earnings before interest and taxes), EBT (earnings before tax) or EAT (earnings after tax). In the instances where it is specified it is a piece of cake to find the corresponding value in the income statement. In a few cases the entrepreneurs only refer to “results” without further guidance. We have made the assumption that “results” without further comments refers to earnings before tax. Although it could also be argued that the earnings from the operations EBIT is what the entrepreneur is referring to, which would lead to a slightly different outcome. In regards to the research question and purpose of this study, we do not perceive this error as an issue. This is because investors would also have to make these kinds of assumptions, which are the kinds of issues in the financial information the study seeks to highlight. Furthermore, the purpose of the study was not to make precise measurements of the errors in the financial data, only to examine the quality. In that sense, we found it more important to have more cases with “almost” correct representation, than to have less observations to study. It was a trade-off whether to include companies with vague descriptions, but in
an area with very few potential candidates for examination we perceived it important to include them anyway.

The threats to the reliability could result in slightly different result if the same methods were used on the same startups. The slight differences in the results would unlikely lead to different conclusions. Hence, we perceive that the reliability for the study could be considered to be adequate for the study considering the research question and purpose. A high degree of reliability through consistency and stability of the measurements is no guarantee that the results are valid (Golafshan, 2003, p. 599). Therefore, we will continue with discussing the validity of the study.

9.1.2 Internal Validity

One important question to consider when conducting research is whether the conclusions are valid given the used research method (Ryan et al., 2002, p. 141). To achieve high internal validity, it is important to carefully choose the research method that is best suited to capture what the study aims to examine (Ihantola & Kihn, 2011, p. 42). In regard to the research question and purpose, we find a mixed-methods approach best suited for the task since qualitative methods is needed in order examine uncharted grounds, but at the same time the quantitative method make our study a bit more generalizable. Careful considerations have been made to choose a research design that capture the most essential parts of financial information from an investors perspective.

A threat to the internal validity can come from the researchers bias towards using specific methods (Ihantola & Kihn, 2011, p. 42). Both researchers in this study have a background in the natural sciences and have preferences leaning towards quantitative methods, which is likely to have biased the choice to include quantitative methods in the study. If researcher have inadequate or biased knowledge about the research subject can also pose a threat to the internal validity (Ihantola & Kihn, 2011, p. 42). As we are not experts within the area we have included section 2.1 (Authors’ Background) so that the reader can assess for themselves whether we are qualified or not to conduct the study. The financial information disclosed to investors should be accurate, adequate and timely according to the Conference board (2001, p. 10). Our research has been designed to capture two of these criteria, namely the accuracy and adequacy of the financial information.

The internal validity of this research concerns whether the two proxies for information quality we used really measures what it is supposed to. In this research it is hard to say since “quality” is something subjective, my perception of quality will most likely differ from yours. Our comparison between financial forecasts and financial statements is basically a study of the accuracy of information, which according to the Conference board (2001, p. 10) is one of the main criteria for information quality. Regarding the accuracy of financial forecasts, it should not be controversial to state that more accurate forecasts are of higher quality than inaccurate ones. Therefore, we find the validity of that method to be high, i.e. the accuracy of the financial forecasts is a good measure the quality of financial information on online equity crowdfunding platforms.

The second proxy for the quality of the financial information is concerning the valuation of the startup. What we are really interested in is how fair the value is and especially the methods and assumptions used to calculate the value. Yet again, we assume accurate, adequate and timely to be of high quality, and therefore want to examine if the
information is adequate. The concept of value is subjective and therefore there is no point in measuring the valuations in terms of accuracy. Instead we examine the value using qualitative methods we get a more wholesome view about the adequacy of the financial information. As a standalone method the qualitative would not be great, but together with the insights from the quantitative methods we perceive the validity adequate.

9.1.3 External validity

External validity refers to the generalizability of the conclusions of the study given the method and data used in the study, i.e. how well the conclusions stands in other, time periods, populations and settings (Ihantola & Kihn, 2011, p. 42). Population validity concerns how well inferences can be drawn from the study to populations outside the one in the study (Ihantola & Kihn, 2011, p. 42). If the sample in the study is not random and the sample size is small the conclusions might not be representing the entire population (Howell, 1995, p. 6-7). Biases in the examined population could post threats to the external validity (Ihantola & Kihn, 2011, p. 42-43). Many factors such as the size of the company and years in business are likely to affect the quality of information. Therefore, the results of the study are highly dependent on the studied startups, indicating low external validity.

The population of the study is startups funded on equity crowdfunding platforms, although we have only been examining startups on the specific platform FundedByMe. Therefore, it is important to ask what biases this could impose to the study, especially since the sample size is small (for a quantitative study) and the sampling method is non-random. Other equity crowdfunding platforms might have their other guidelines, policies or requirements concerning financial information, making our conclusions inaccurate in those cases. Biases by only sampling from FundedByMe could also concern the platforms niche. For example, some platforms are likely to focus on specific industries or market sizes, making comparisons inappropriate. The conclusions should therefore be generalized with caution within the population and should not be generalized outside the particular population. The conclusions reached in this study should therefore not be used as proofs or facts and not be generalized on other populations. The conclusions should rather be seen as indicators of a phenomenon that is subject for further research. Although the exact results are not appropriate to generalize, we believe that the general conclusions will hold true on average, for the entire population.

Time validity describes how stable the conclusions are over different time periods and risks for the time validity includes structural changes in the examined variables over time (Ihantola & Kihn, 2011, p. 43). The conclusions of this study are likely to change over time for several reasons. Equity crowdfunding is a rather new phenomenon at an early stage and it is yet to see how the form of funding will develop in the future. The legal requirements suggested in SOU 2018:20 concerns the information exchange and investor protection, and this is likely to affect equity crowdfunding setting fundamentally. As we have discussed throughout the thesis, the trust in entrepreneurs and legitimacy of equity crowdfunding is likely to change over time and might also yield different conclusions over time. Environmental validity can be described as how well the conclusions translates to other settings (Ihantola & Kihn, 2011, p. 43). Our study is conducted in the online equity crowdfunding setting, other forms of crowdfunding is likely to have other incentive structures and legal requirements. The conclusions should therefore not be generalized to other settings without careful considerations.
9.2 Judgement Criteria for Qualitative Methods

There are several different ways of determining the validity of qualitative research with several terms for more or less the same things (Creswell & Miller, 2000, p. 124). Creswell and Miller describe three methods to ensure validity within the postpositivist paradigm; triangulation, member checking and the audit trail (Creswell & Miller, 2000, p. 126). These methods are targeted towards different groups, triangulation through the researcher’s lens, member checking ensures validity through the lens of the research subjects and the audit trail for the readers and reviewers (Creswell & Miller, 2000, p. 126).

9.2.1 Triangulation

Triangulation increases the reliability and validity of the research (Golafshan, 2003, p. 603; Creswell, 2009, p. 219). The triangulation increases the validity since multiple forms of evidence is considered instead of a single source (Creswell & Miller, 2000, p. 127). This study has used one quantitative measure and a qualitative approach to evaluate the same concept; namely the quality of financial information on crowdfunding platforms. This triangulation was done to improve the quality of the research compared to using just a single method.

9.2.2 Member checking

In this process the conclusions are taken back to the study participants, that can have their saying in the truthfulness interpretations (Creswell & Miller, 2000, p. 127). In other words, some or all of the participants in the study will review the findings and consider if the interpretations are in line with their own perception. In our research this would include to contact the studied startups and let the entrepreneurs give their version. This has not been done in the study due to the time constraints and practical implications.

9.2.3 Audit trail

The audit trail concerns a process in where people not involved in the research reviews the work to ensure the credibility (Creswell & Miller, 2000, p. 128). To make this possible the researchers have to document their research process in detail and be transparent about decisions and activities (Creswell & Miller, 2000, p. 128). The auditors task is then to review the credibility of the process, product and the trustworthiness of the finding (Creswell & Miller, 2000, p. 128). By the time this research is published, it has been read and reviewed by the thesis supervisor, an examiner and a few fellow students. To make it easier for them to assess our research we have tried our best to be transparent about both theoretical assumptions and practical methods. We have dedicated plenty of time to ensure that the way we reached our results and conclusions are clear for the reader. However, a tradeoff between transparency and ethical considerations has been made in whether the companies names should be disclosed. We have chosen to not disclose the names since we have not asked for permission to investigate the companies’ financial information.
10. Ethical Considerations

In terms of mixed methods, we have to discuss ethical principles with regards to both quantitative and qualitative methods (Creswell, 2012, p. 553-554). In the following section, we therefore discuss these ethical principles with regards to our quantitative and qualitative methods.

10.1 Qualitative Methods

According to Christians (2005, p. 144-145), there are four ethical principles that researchers might consider when they use qualitative methods. These ethical principles are known as informed consent, privacy and confidentiality, deception and accuracy. In terms of informed consent, researchers should tell their research subjects that they are participants in a research study (Christians, 2005, p. 144-145). Participants should not be forced to participate and should have all the knowledge about possible consequences that might occur from being participants in the research study (Christians, 2005, p. 144-145).

In terms of our research study, we did not ask our research subjects for permission to use their crowdfunding campaigns. As we examined a relatively large number of case companies during a short period of time, we did not have the time to ask them for permissions to use their campaigns. However, we were in contact with the crowdfunding platform and discussed with them that we were doing a research study in which we examine the financial information that entrepreneurs provide on the crowdfunding platform. In our discussion with them, they did not express any complaints against our research study.

In addition, to our advantage the financial information that the entrepreneurs provide on the crowdfunding platform is public. As well, the specific information from each company is unrecognizable since we have anonymized them into Case 1-22 instead of using their real names. This leads us to the other ethical principle of privacy and confidentiality which means that researchers should handle information about research subjects in a careful manner and not disclose any identities or other personal information unless they have permissions (Christians, 2005, p. 145). We did not publish the name of the individual case companies, however we did state the name of the crowdfunding platform. This might not be optimal from an ethical viewpoint, although we found it necessary to increase the transparency, replicability and legitimacy of the study.

In terms of deception, researchers should continue to be careful in handling information about research subjects in order to avoid information distortions about these research subjects (Christians, 2005, p. 145). In our research study, we have always been describing how we collected and analyzed the information about these subject matters. As well, we have as we have previously been discussing different backgrounds from entrepreneurship, finance and accounting. We have therefore good understanding about the financial information provided on the crowdfunding platform.

This leads us to the other ethical principle of accuracy which means that researchers should collect information from research subjects in an accurate manner (Christians, 2005, p. 145). As we have good knowledge about the subject matter, we have good understanding about what type of information that might be necessary to provide a fair picture of the results. As well, we were able to identify what information they actually meant when they sometimes had different names for conventional denotations. For
instance, we could read their calculations and in that way through accounting knowledge know what conventional denotations they meant.

10.2 Quantitative Methods

In a similar way to qualitative methods, research subjects must give their consent before we use the information about them in our research study (Creswell, 2012, p. 553-554). We did not ask our research subjects for permission to use their crowdfunding campaigns to be part of our research study. However, these companies are the same as in the qualitative methods, and therefore we use the same arguments as we did for the qualitative methods which is about lack of time, the crowdfunding platform did not have any complaints against our research study and the information is public.

As well, researchers should process data which they collect and analyze about research subjects in a confidential and anonymous manner (Creswell, 2012, p. 553-554; Gilbert, 2001, p. 53-55). We have not disclosed the names or other personal information about the case companies in the research. As well, our quantitative results were just a summary of statistical measurements (e.g. average differences, p-values) of these companies. In that manner, it is unlikely to identify any of the companies which we have used as a basis for our quantitative methods.

Furthermore, Christ et al. (2011, p. 276-277) discuss how researchers should use appropriate sampling and analysis methods with regards to validity to analyze the data about research subjects. In our research study, we have searched support for our choices in research which have done in-detail research about the specific sampling and analysis methods. For instance, we use sequential mixed methods sampling which is consistent with our choice of a sequential explanatory study where we in both cases start to sample and analyze with quantitative methods and after that to sample and analyze with qualitative methods.
Reference List


Appendix 1
The results from the collection of forecasted (Expected) Revenue, Costs and Profit/Loss compared with the corresponding numbers from the income statement (Actual). Variance describe the difference between actual and expected in percent. Success is “TRUE” if the financial post is overestimated in the financial forecast and “FALSE” if it is not, these are later used in the statistical testing using binomial distribution. Case is the number assigned to the case company and Year refers to the year in the financial forecast being examined.

<table>
<thead>
<tr>
<th>Case</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

### Revenue

<table>
<thead>
<tr>
<th></th>
<th>Case 1</th>
<th>Case 2</th>
<th>Case 3</th>
<th>Case 4</th>
<th>Case 5</th>
<th>Case 6</th>
<th>Case 7</th>
<th>Case 8</th>
<th>Case 9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expected</td>
<td>13000000</td>
<td>19500000</td>
<td>4000000</td>
<td>2290000</td>
<td>2210000</td>
<td>3720000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actual</td>
<td>10023000</td>
<td>9654000</td>
<td>845000</td>
<td>4950000</td>
<td>2472000</td>
<td>1170000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Variance(%)</td>
<td>−22,90%</td>
<td>−50,49%</td>
<td>−78,88%</td>
<td>−78,38%</td>
<td>11,86%</td>
<td>−96,85%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Success</td>
<td>TRUE</td>
<td>TRUE</td>
<td>TRUE</td>
<td>TRUE</td>
<td>FALSE</td>
<td>TRUE</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Costs

<table>
<thead>
<tr>
<th></th>
<th>Case 1</th>
<th>Case 2</th>
<th>Case 3</th>
<th>Case 4</th>
<th>Case 5</th>
<th>Case 6</th>
<th>Case 7</th>
<th>Case 8</th>
<th>Case 9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expected</td>
<td>12480000</td>
<td>17940000</td>
<td>5700000</td>
<td>2800000</td>
<td>2460000</td>
<td>4190000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actual</td>
<td>10030000</td>
<td>9441000</td>
<td>2291000</td>
<td>3490000</td>
<td>1291000</td>
<td>9340000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Variance(%)</td>
<td>−19,63%</td>
<td>−47,37%</td>
<td>−59,81%</td>
<td>−87,54%</td>
<td>−47,52%</td>
<td>−77,71%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Success</td>
<td>TRUE</td>
<td>TRUE</td>
<td>TRUE</td>
<td>TRUE</td>
<td>FALSE</td>
<td>TRUE</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Profit/Loss

<table>
<thead>
<tr>
<th></th>
<th>Case 1</th>
<th>Case 2</th>
<th>Case 3</th>
<th>Case 4</th>
<th>Case 5</th>
<th>Case 6</th>
<th>Case 7</th>
<th>Case 8</th>
<th>Case 9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expected</td>
<td>520000</td>
<td>1560000</td>
<td>−1700000</td>
<td>−510000</td>
<td>−650000</td>
<td>−470000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Actual</td>
<td>−7000</td>
<td>213000</td>
<td>−1709000</td>
<td>1460000</td>
<td>−1181000</td>
<td>−817000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Variance(%)</td>
<td>−101,35%</td>
<td>−86,35%</td>
<td>−0,53%</td>
<td>128,63%</td>
<td>−81,69%</td>
<td>−73,83%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Success</td>
<td>TRUE</td>
<td>TRUE</td>
<td>TRUE</td>
<td>FALSE</td>
<td>TRUE</td>
<td>TRUE</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Case</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

### Revenue

<table>
<thead>
<tr>
<th></th>
<th>Case 4</th>
<th>Case 5</th>
<th>Case 6</th>
<th>Case 7</th>
<th>Case 8</th>
<th>Case 9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expected</td>
<td>3100000</td>
<td>36784</td>
<td>3000000</td>
<td>0</td>
<td>6590000</td>
<td>30402000</td>
</tr>
<tr>
<td>Actual</td>
<td>1000</td>
<td>30338</td>
<td>62000</td>
<td>0</td>
<td>5175000</td>
<td>7087000</td>
</tr>
<tr>
<td>Variance(%)</td>
<td>−99,68%</td>
<td>−17,52%</td>
<td>−97,93%</td>
<td>0,00%</td>
<td>−21,47%</td>
<td>−76,69%</td>
</tr>
<tr>
<td>Success</td>
<td>TRUE</td>
<td>TRUE</td>
<td>TRUE</td>
<td>FALSE</td>
<td>TRUE</td>
<td>TRUE</td>
</tr>
</tbody>
</table>

### Costs

<table>
<thead>
<tr>
<th></th>
<th>Case 4</th>
<th>Case 5</th>
<th>Case 6</th>
<th>Case 7</th>
<th>Case 8</th>
<th>Case 9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expected</td>
<td>6340000</td>
<td>48900</td>
<td>4500000</td>
<td>1040000</td>
<td>14790000</td>
<td>30630000</td>
</tr>
<tr>
<td>Actual</td>
<td>48000</td>
<td>103253</td>
<td>3952000</td>
<td>1106000</td>
<td>19313000</td>
<td>28672000</td>
</tr>
<tr>
<td>Variance(%)</td>
<td>−92,43%</td>
<td>111,15%</td>
<td>−12,18%</td>
<td>6,35%</td>
<td>30,53%</td>
<td>−6,39%</td>
</tr>
<tr>
<td>Success</td>
<td>TRUE</td>
<td>FALSE</td>
<td>TRUE</td>
<td>FALSE</td>
<td>TRUE</td>
<td>TRUE</td>
</tr>
</tbody>
</table>

### Profit/Loss

<table>
<thead>
<tr>
<th></th>
<th>Case 4</th>
<th>Case 5</th>
<th>Case 6</th>
<th>Case 7</th>
<th>Case 8</th>
<th>Case 9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expected</td>
<td>−324000</td>
<td>−27230</td>
<td>−1500000</td>
<td>−337000</td>
<td>−13726000</td>
<td>−2280000</td>
</tr>
<tr>
<td>Actual</td>
<td>−358000</td>
<td>−72916</td>
<td>−3890000</td>
<td>−1106000</td>
<td>−14138000</td>
<td>−21585000</td>
</tr>
<tr>
<td>Variance(%)</td>
<td>−10,49%</td>
<td>−167,78%</td>
<td>−159,33%</td>
<td>−228,19%</td>
<td>−3,00%</td>
<td>−9367,11%</td>
</tr>
<tr>
<td>Success</td>
<td>TRUE</td>
<td>TRUE</td>
<td>TRUE</td>
<td>TRUE</td>
<td>TRUE</td>
<td>TRUE</td>
</tr>
</tbody>
</table>

73
<table>
<thead>
<tr>
<th>Case</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Revenue</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Expected</td>
<td>3425000</td>
<td>9775000</td>
<td>2274300</td>
<td>38000000</td>
<td>68700000</td>
</tr>
<tr>
<td>Actual</td>
<td>914000</td>
<td>851000</td>
<td>364000</td>
<td>62799000</td>
<td>41820000</td>
</tr>
<tr>
<td>Variance(%)</td>
<td>−73,31%</td>
<td>−91,29%</td>
<td>−84,00%</td>
<td>65,26%</td>
<td>−39,13%</td>
</tr>
<tr>
<td>Success</td>
<td>TRUE</td>
<td>TRUE</td>
<td>TRUE</td>
<td>FALSE</td>
<td>TRUE</td>
</tr>
<tr>
<td><strong>Costs</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Expected</td>
<td>2190000</td>
<td>4777000</td>
<td>2969877</td>
<td>34200000</td>
<td>18926000</td>
</tr>
<tr>
<td>Actual</td>
<td>4387000</td>
<td>10639000</td>
<td>1114000</td>
<td>61222000</td>
<td>14753000</td>
</tr>
<tr>
<td>Variance(%)</td>
<td>100,32%</td>
<td>122,71%</td>
<td>−62,49%</td>
<td>79,01%</td>
<td>−22,05%</td>
</tr>
<tr>
<td>Success</td>
<td>FALSE</td>
<td>FALSE</td>
<td>TRUE</td>
<td>FALSE</td>
<td>TRUE</td>
</tr>
<tr>
<td><strong>Profit/Loss</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Expected</td>
<td>−85000</td>
<td>1568000</td>
<td>−695577</td>
<td>−750000</td>
<td>−20840000</td>
</tr>
<tr>
<td>Actual</td>
<td>−962000</td>
<td>−864000</td>
<td>−750000</td>
<td>1577000</td>
<td>−10571000</td>
</tr>
<tr>
<td>Variance(%)</td>
<td>−1031,76%</td>
<td>−155,10%</td>
<td>−7,82%</td>
<td>12,32%</td>
<td>−2,66%</td>
</tr>
<tr>
<td>Success</td>
<td>TRUE</td>
<td>TRUE</td>
<td>TRUE</td>
<td>FALSE</td>
<td>TRUE</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Case</th>
<th>15</th>
<th>16</th>
<th>17</th>
<th>18</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td><strong>Revenue</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Expected</td>
<td>3700000</td>
<td>3516000</td>
<td>12272000</td>
<td>1869677</td>
</tr>
<tr>
<td>Actual</td>
<td>1360000</td>
<td>328000</td>
<td>278000</td>
<td>454000</td>
</tr>
<tr>
<td>Variance(%)</td>
<td>−63,24%</td>
<td>−90,67%</td>
<td>−97,73%</td>
<td>−75,72%</td>
</tr>
<tr>
<td>Success</td>
<td>TRUE</td>
<td>TRUE</td>
<td>TRUE</td>
<td>TRUE</td>
</tr>
<tr>
<td><strong>Costs</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Expected</td>
<td>3488000</td>
<td>6232400</td>
<td>15382000</td>
<td>4781135</td>
</tr>
<tr>
<td>Actual</td>
<td>2218000</td>
<td>347000</td>
<td>659000</td>
<td>5709000</td>
</tr>
<tr>
<td>Variance(%)</td>
<td>−36,41%</td>
<td>−94,43%</td>
<td>−95,72%</td>
<td>19,41%</td>
</tr>
<tr>
<td>Success</td>
<td>TRUE</td>
<td>TRUE</td>
<td>TRUE</td>
<td>FALSE</td>
</tr>
<tr>
<td><strong>Profit/Loss</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Expected</td>
<td>212000</td>
<td>−2716400</td>
<td>−3110000</td>
<td>−2911458</td>
</tr>
<tr>
<td>Actual</td>
<td>−858000</td>
<td>−19000</td>
<td>−381000</td>
<td>−5255000</td>
</tr>
<tr>
<td>Variance(%)</td>
<td>−504,72%</td>
<td>99,30%</td>
<td>87,75%</td>
<td>−80,49%</td>
</tr>
<tr>
<td>Success</td>
<td>TRUE</td>
<td>FALSE</td>
<td>FALSE</td>
<td>TRUE</td>
</tr>
<tr>
<td>Case</td>
<td>19</td>
<td>20</td>
<td>21</td>
<td>22</td>
</tr>
<tr>
<td>------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
</tr>
<tr>
<td>Year</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Revenue</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Expected</td>
<td>442286</td>
<td>19000000</td>
<td>500000</td>
<td>191500</td>
</tr>
<tr>
<td>Actual</td>
<td>0</td>
<td>1322000</td>
<td>123757,715</td>
<td>434669</td>
</tr>
<tr>
<td>Variance(%)</td>
<td>−100,00%</td>
<td>−93,04%</td>
<td>−75,25%</td>
<td>126,98%</td>
</tr>
<tr>
<td>Success</td>
<td>TRUE</td>
<td>TRUE</td>
<td>TRUE</td>
<td>FALSE</td>
</tr>
<tr>
<td><strong>Costs</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Expected</td>
<td>217041</td>
<td>15500000</td>
<td>338000</td>
<td>1132225</td>
</tr>
<tr>
<td>Actual</td>
<td>85000</td>
<td>20000</td>
<td>126582,279</td>
<td>652997</td>
</tr>
<tr>
<td>Variance(%)</td>
<td>−60,84%</td>
<td>−99,87%</td>
<td>−62,55%</td>
<td>−42,33%</td>
</tr>
<tr>
<td>Success</td>
<td>TRUE</td>
<td>TRUE</td>
<td>TRUE</td>
<td>TRUE</td>
</tr>
<tr>
<td><strong>Profit/Loss</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Expected</td>
<td>225245</td>
<td>3500000</td>
<td>162000</td>
<td>−940725</td>
</tr>
<tr>
<td>Actual</td>
<td>−85000</td>
<td>−1302000</td>
<td>−2824,563239</td>
<td>−218328</td>
</tr>
<tr>
<td>Variance(%)</td>
<td>−137,74%</td>
<td>−137,20%</td>
<td>−101,74%</td>
<td>76,79%</td>
</tr>
<tr>
<td>Success</td>
<td>TRUE</td>
<td>TRUE</td>
<td>TRUE</td>
<td>FALSE</td>
</tr>
</tbody>
</table>