Crowdfunding

-How can investors evaluate equity crowdfunding offers?

UNIVERSITY OF GOTHENBURG

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Elucidation

Crowdfunding: "financing projects or businesses with small contributions from large numbers" (Collins & Pierrakis, 2012).

Crowdfunding Platform*: "*A website dedicated to raising funds via crowdfunding" (Gedda, et al., 2016, p. 32).

Capital seeker: We define a capital seeker, in equity crowdfunding, as a private company seeking capital via crowdfunding.

Investor: "Investors are mostly consumers who see crowdfunding as an alternative to traditional bank savings or funds and stocks. Many platforms however enable, even for companies to invest" (Finansinspektionen, 2015, pp. 7-8).

Equity-based crowdfunding: *"*A method of financing, whereby an entrepreneur sells a specified amount of equity or bond-like shares in a company to a group of (small) investors through an open call for funding on Internet-based platforms" (Ahlers, et al., 2015, p. 958).

Passive crowdfunding platform: "Passive platforms solely intend to link Investors and capital seekers and may help to carry out the investment" (Finansinspektionen, 2015, p. 7).

Active crowdfunding platform: "Provide, beyond linking capital seekers and investors, additional services in the investment process. It may be a question of audits (due diligence); analyses, risk categorizing and valuation of projects seeking capital, and advisory and management services" (Finansinspektionen, 2015, p. 8).

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1. INTRODUCTION

Crowdfunding is a relatively new phenomenon in the venture capital industry. According to Lawton and Marom (2010) the term first appeared in 2006. Crowdfunding is defined as "financing projects or businesses with small contributions from large numbers" (Collins & Pierrakis, 2012). Previously small businesses had to rely on financing from founders, family, friends, fans and fools, also called the 5Fs, and state grant-based funding (Harrison, 2013, p. 283). Internet has created new opportunities. Just as artists have been able to generate interest for their music on YouTube, companies can generate interest for their products or services on websites called crowdfunding platforms. A crowdfunding platform is "a website dedicated to raising funds via crowdfunding." (Gedda, et al., 2016, p. 32). One famous success story is the company Pebble who received over 10 million dollars, for pre-orders of their smartwatch, on a crowdfunding campaign on Kickstarter 2012.

The Pebble example is the most common and popular type of crowdfunding. Investors fund the company by pre-ordering the actual product or service (Gedda, et al., 2016, p. 32). Crowdfunding can however be divided into different categories based on the type of investment and the expected payoff to investors. The categories are: *No Reward, Non-Financial* and *Financial.* No-Reward centres on donation and lending without interest. Non-financial centres on reward, sponsorship, and pre-order. Financial centres on lending with interest and equity-raising (Gedda, et al., 2016, p. 32).

Financial models of crowdfunding have recently become increasingly popular and are experiencing rapid growth as a method of raising venture capital. (Finansinspektionen, 2015, pp. 4-5) This report will focus on equity crowdfunding which is a way for companies to raise equity and for investors an opportunity to invest in potential growth companies. Equity crowdfunding can be defined as: "A method of financing, whereby an entrepreneur sells a specified amount of equity or bond-like shares in a company to a group of (small) investors through an open call for funding on Internet-based platforms" (Ahlers, et al., 2015, p. 958).

Crowdfunding platforms for financial crowdfunding can be divided into *passive and active platforms*. "Passive platforms solely intend to link Investors and capital seekers

and may help to carry out the investment" (Finansinspektionen, 2015, p. 7). *Funded by me, www.fundedbyme.com,* is a Swedish example of a such a passive crowdfunding platform. Active Platforms on the other hand "provide, beyond linking capital seekers and investors, additional services in the investment process. It may be a question of audits (due diligence); analyses, risk categorizing and valuation of projects seeking capital, and advisory and management services" (Finansinspektionen, 2015, p. 8). *Pepins, and Innovestor* are Swedish examples of active crowdfunding platforms.

2. PROBLEM DESCRIPTION

Equity crowdfunding is a new investment opportunity for investors beside traditional investments such as listed stocks or funds. But how can investors evaluate equity crowdfunding offers? Investors of a listed stock can be relatively confident about the market value of the company since the shares are traded on a regular daily basis. The current value of the investment is relatively clear. Investors of equity crowdfunding on the other hand, cannot value the company solely based on the share price since the shares are not traded on a regular basis. The share price is therefore not based upon a valuation by the market. The share price of an equity crowdfunding offer is based upon a pre-money valuation of the company often conducted by the company itself or in in cooperation with the crowdfunding platform. The investor therefore need to evaluate if the offer is attractive or not. What makes the evaluation even more difficult is that the companies seeking capital often are in the pre-revenue start-up or early growth stage. To make a fair evaluation investors need to take the companies prospect into consideration.

Another difference between investments in listed stocks and equity crowdfunding is the information available for analysis. Investors that invest in listed stocks have extensive information, from different sources, to base their investment decision upon. Financial newspapers and websites, such as Dagens Industri[1] and Google Finance, publish professional analyses and provide information and extensive historical data for every listed stock on the market. Above all, trading platforms, such as Avanza, are legally obliged to present extensive data about accessible stocks for the benefit of investors.

[1] A Swedish financial newspaper. http://www.di.se/.

An equity crowdfunding platform does not have the same legal responsibility to provide the investors with data as a trading platform for listed stocks. In fact, the financial crowdfunding platform does not have any legal requirements whatsoever concerning communication and therefore often acts as a simple middleman between capital seekers and investors (Finansinspektionen, 2015, p. 14). It is up to the individual platform to decide the extent of information provided to its investors. This heightens concern about asymmetric information between investors and capital seekers. The capital seeker is naturally assumed to have more knowledge concerning their company's true value than the investor (Ahlers, et al., 2015, p. 959).

2.1 Purpose and delimitations

In this report, we will compile existing knowledge and gather new information of scientific and practical interest concerning equity crowdfunding. The basics of equity crowdfunding will be explained for the benefit of uninitiated readers. The empirical content will be broader then the specific research questions to provide a better understanding of equity crowdfunding. The purpose of this report is to develop a model for how investors can evaluate equity crowdfunding offers. The model will be developed and tested through a case study.

We will limit our research to equity crowdfunding offers traded on approved crowdfunding platforms in Sweden. The reason for this is that different countries have different regulations vis-à-vis equity crowdfunding (Finansinspektionen, 2015, p. 10). Establishing universally valid codes of practice for all markets is therefore impossible.

A commonly accepted method for reducing investment risk is to invest in a diversified portfolio; diversification being one of the mainsprings of sound fund management. However, we will only briefly discuss portfolio theory in this essay. Our main focus is how investors can evaluate individual equity crowdfunding offers that he or she is considering adding to their portfolio.

We will have an investor perspective. We will not limit our models complexity due to assessments about investors resources such as knowledge, experience, and time. The model will use evaluation methods that are difficult for investors lacking economical education.

2.2 Research question

- How can investors valuate equity crowdfunding offers?

Sub-questions:

- How can investors mitigate the problem of asymmetric information?
- How can investors make a qualitative evaluation of an equity crowdfunding offer?
- How can investors make a quantitative (financial) evaluation of an equity crowdfunding offer?

3. METHOD

The report is based on a qualitative, inductive approach. To answer our research questions, we examined how investors proceeded in reality to evaluate equity crowdfunding, through interviews. The answers given in the interviews determined the theoretical basis for our analysis. Based on the empirical findings together with the theoretical basis we created a suggested framework for equity crowdfunding evaluation. The framework was applied to a case study, of a recent equity crowdfunding campaign, to develop and test an evaluation model of equity crowdfunding.

Interviews

Our empirical primary data was gathered through interviews with professionals of equity crowdfunding. We identified equity crowdfunding platforms, venture capital companies and business angels as possible respondents. We decided to contact equity crowdfunding platforms as they both should be able to answer questions regarding evaluation of crowdfunding offers and provide us a better understanding equity crowdfunding as a whole. We contacted Pepins and Innovestor through email and booked appointments for interviews at their respective offices in Stockholm. The respondents received our questionnaire approximately one week in advance by email. The questionnaire is attached in appendix 1. The interviews were held in Swedish. We conducted a semi-structured interview where we let the respondents present their own and their company's background and freely answer the questions given. We asked supplementary questions when needed. We made sound recordings of the interviews and wrote a summary of the interviews afterwards. To validate that we understood the

information given correctly we let the respondents review the written summaries and propose changes. We thereafter implemented the changes proposed.

Validity

The answers from our interviews should be considered to have a high validity since the respondents are experienced investors working with equity crowdfunding. The methods they use for evaluation are demonstrably used in practise. However, worth nothing is that selection is small and we cannot draw conclusions concerning how professionals in general conduct evaluations of equity crowdfunding.

Literature studies

Literature studies was conducted to gather information regarding crowdfunding in general and equity crowdfunding in particular. We used Gothenburg university library's database and Google Scholar to search for scientific articles and standard Google search for common knowledge. The search words we used were "Crowdfunding", "Equity crowdfunding", "Equity crowdfunding valuation", "Venture capital" and "Venture capital valuation".

Case study

For our case study, we selected an active campaign on Pepins platform. Our aim is to develop a practical model that investors can use. We therefore only used information that all investors can obtain in our case study. We used the crowdfunding platform to obtain information about the company. Additional information was collected from the company's web-site, google searches, and we used Bolagsverkets website (Bolagsverket, 2016) to obtain annual reports for the company and its closest competitors. We applied our suggested framework, containing various valuation methods, on the case study and developed and tested a model for equity crowdfunding evaluation.

4. EMPIRICISM

In this section, we present a summary of our interviews with the two active crowdfunding platforms Pepins and Innovestor. We will present a brief description of each platform and the background of our interview respondents. In the summery we

will focus on the respondents view of how investors can evaluate equity crowdfunding offers. We will also present information that can broaden the readers understanding of equity crowdfunding. The interviews were held in Swedish and answers and citations are freely translated into English.

4.1 Interview Pepins

Pepins, www.pepins.com, is a Swedish active equity crowdfunding platform (Finansinspektionen, 2015, p. 7). The lowest investment amount on Pepins is 500 SEK but investors can invest up to millions in each company depending on interest and capacity. Companies on Pepins platform typically raise a minimum of 5 million SEK and upwards. Pepins earns money by charging the companies a percentage based on the raised capital and they also get options to buy shares in a company. Pepins state that they verify all companies and the responsible team running them but in the end, it is the company itself that makes the valuation and they are responsible for all information in the prospectus[2] presented on Pepins website (Pepins, 2016). Pepins further mean that in the end it is always up to the investor to assess if the valuation is attractive in relation to the company's future development.

On the 6th of December 2016, we conducted an interview with Lennart Blomdahl, Pepins. The following information is the essence of Blomdahl's answers during that interview.

Blomdahl has an extensive background of venture capital investments in unlisted companies. He was one of the founders of a venture capital company in USA with an investment orientation towards IT and biotech. In 2011 Blomdahl started Affärsängelakademin (Translated from Swedish: Business Angel Academy) which invited business angels to discuss how to make venture capital investments possible and profitable in the long run. The result became Ängelslistan (Translated from Swedish: the Angel list). At this time, he met Anders Sjunnesson, founder of Pepins, who had a similar

[2] According to law 1991:980 about trade with financial instruments, 2nd chapter, 4 paragraph a prospect isn´t needed when transferable securities below 2,5 million Euro are offered to the public in the EES during 12 months (Sveriges Riksdag, 2016)

idea with a strong crowdfunding perspective and they decided to work together under Pepins.

Blomdahl highlights a term called dealflow. Dealflow means that you are in an environment where you get invited to invest in a large number of companies. This is essential when investing in unlisted companies. First it makes it possible to choose the right company in a market trend. Secondly it enables you to invest in enough good companies to build a portfolio of 10 to 15 companies over time. Blomdahl strongly highlight the importance of a portfolio of investments when investing in unlisted companies. He says that so far no one in the world can cherry-pick the winners. It is too complicated. The world's best investors, angel investors, venture capitalists and large companies all do the same research. They evaluate the market, the business model, the scalability of the business idea, the team and the company performance and achieve similar results. All research and experience says that you need to invest in many companies and build a portfolio to be a successful investor in unlisted companies.

Blomdahl means that equity crowdfunding has solved an impossible equation. Very few investors have the time, capital, dealflow, or the competence needed for investing in unlisted companies. Equity crowdfunding and Pepins solves these issues. Pepins take the time to conduct due diligence and bring forth a prospect, shareholders agreement and an investment agreement. Pepins lower the capital needed by setting the minimum investment to 500 SEK. Pepins have dealflow, today they get more than one company inquiry per day. Pepins have most of the competence in house needed to evaluate the companies. Blomdahl means that by sharing the process and evaluation with the common public and lower the entry barrier Pepins makes it possible for everyone to invest.

Concerning the valuation of companies Blomdahl mainly emphasizes qualitative aspects of the company such as team, uniqueness, and the business idea but also market factors such as competition and market growth.

"A great idea can be ruined by a mediocre team, but even a mediocre idea can be successful with a good team." (Blomdahl, 2016)

Blomdahl also mentions two models for company valuation which we understand as the Berkus Method and a method for valuation using comparable companies such as the valuation multiple method (These methods will be described in depth in the theory section). Blomdahl see two kinds of risks when making evaluations. One risk is that you invest in a company that does not succeed. Another risk is that you do not invest in a company that does succeed because you think the valuation is too expensive.

Authors comments

The interview with Lennart Blomdahl gave us interesting new insights in equity crowdfunding investments. For our study one main insight were that Lennart stressed the importance of a portfolio of investments. This is something we cannot ignore and we need to address this as a pre-condition when investing in equity crowdfunding. Another insight was Lennart's emphasis on qualitative aspects of company valuation with the team, business idea, competition, market growth and uniqueness as keywords. Lennart also did mention models for a financial valuation of the company even though he did not put too much emphasis on them. This was the Berkus method and methods for valuation using comparable companies.

4.2 Interview Innovestor

Innovestor, www.innovestorgroup.com/se, is another active crowdfunding platform that offers equity based crowdfunding. The company has offices in Helsinki, Stockholm, and Moscow (Innovestor Group, 2016). Innovestor does not market themselves as a crowdfunding platform, but they obey the same legal regulations as equity crowdfunding and are defined as such by Finansinspektionen (2015, p. 7). One thing that separates Innovestor from the basic understanding of crowdfunding is the investment amount required to participate in an offer. The lowest investment amount is 10 000 Euro. This can be compared to the lowest investment fee on Pepins of 500 SEK. Innovestor states that for investors they "offer a direct investment channel to the most promising growth companies" (Innovestor Group, 2016). For companies Innovestor states that they offer a "Fast and flexible way to obtain funding" (ibid.).

On the 6th of December 2016, we conducted an interview with the Managing Director of Innovestor Sweden, Stefan Sonnerstedt. Sonnerstedt has a financial background and

previously worked for the Swedish Bank Nordea with bonds, options, and derivative products. The following information is the essence of Sonnerstedt's answers during that interview.

Sonnerstedt emphasizes that Innovestor is more than just a platform for investors and capital seekers to meet. He means that Innovestor conduct the fieldwork for the investors by selecting interesting companies, checking the paperwork, and making an estimation of the company's value. The information is presented in a prospectus on the platform. Sonnerstedt says that Innovestor fills a gap between the first round of capital raised from family and friends and the latter capital raised from venture capital companies. Innovestor reinvest a share of their payment in the company. Sonnerstedt means this send a signal that they believe in the companies they present on their platform.

"We invest ourselves, will you invest with us?" (Sonnerstedt, 2016)

Sonnerstedt means that the essence of Innovestor's strength is shown in the prospect. The investor should be confident that all information needed for the investment is provided and of high quality. The investor should also be confident that the company's papers are in order. Investor therefore conducts a careful due diligence process. The question marks should concern if the investor believes that the company can reach the forecasted objectives and not uncertainties regarding ownership relations etc.

"We have the best from crowdfunding; we have a platform with the information. We have the best from the VC world; we conduct a proper Due Dilligence and look ahead." (Sonnerstedt, 2016)

Sonnerstedt means start-up companies is an alternative investment asset to the interest and stock market. The valuation of start-up companies as assets doesn't neither correlate with these latter asset classes. Sonnerstedt says that a study has shown that a portfolio of 20 start-up companies has given an average return of 20% per year. Stefan underscores the importance of a portfolio of companies for this result.

Sonnerstedt says that important key words for attractive growth companies are *innovative*, *tech* and above all: *founders*. Sonnerstedt says that *"if I was to invest half a million in a company I would want to meet and evaluate the founders of the company"*

and *"It's better to invest in a bad business idea with a great team than a great business idea with a bad team."* Sonnerstedt further says that to analyse the marketing prospectus is the last step. Before he even bothers to read that he needs to be triggered to the idea, the vision, and the persons behind it.

T*he first step is to be attracted to the idea, the vision, and the persons behind it.*

(Sonnerstedt, 2016)

When we discuss evaluation of the equity seeking companies Sonnerstedt's financial background is evident. Sonnerstedt shows us an excel-file with models for valuation of venture capital. These are: The Multiple valuation method, the Discounted cash flow method, the Berkus method, the Risk factor summation method, the Scorecard valuation method, the First Chicago method and the Venture capital method. Sonnerstedt says that all models are based on subjective assumptions of some kind, but he means that he wants to base the valuation on something. One way is to calculate all models and compute a mean of the results. When making an evaluation, we should consider historical data and the prospects of the company. Asses what the company can accomplish with the capital raised and with the effort described in the prospectus.

Sonnerstedt finally says that he believes that crowdfunding both can generate a good return and be of benefit to Sweden and Swedish companies.

Authors comments

The interview with Sonnerstedt gave additional insights into equity crowdfunding. Even Sonnerstedt emphasized the importance of a portfolio of investments. Sonnerstedt also highlighted qualitative factors when evaluating companies with team, business idea, innovative and tech as keywords. In addition, Sonnerstedt gave great emphasis on a quantitative valuation of the company and we found the venture capital models shown by Sonnerstedt very interesting for our study. Venture capital models are usually meant for pre-revenue start-up companies but Sonnerstedt did use these models on companies in a growth stage as well.

5. THEORETICAL FRAMEWORK

In this section, we present theories determined by our problem description and the result from the interviews conducted. This will include theories concerning how to

mitigate asymmetric information and company evaluation methods. Our interviews together with literature studies has shown that there are two methods of evaluating growth companies. One is by analysing qualitative factors, such as product differentiation and team. Another is more quantitative where the aim is to estimate a value of the company based on different financial valuation methods. These two methods are not to be seen as completely separated as these overlaps considerable. Several of the quantitative valuation methods use qualitative input factors.

5.1 Asymmetric information

Asymmetric information exists when some people have better information then others (Baye & Prince, 2014, p. 462). In this context, capital pagers information about the equity crowdfunding offer and its future cash flows is likely to be superior to that of investors.

Investors can reduce information asymmetry by using the *wisdom of the crowd* (Ibrahim, 2016, p. 597). For example, investors can take advantage of internet to share knowledge about, and discuss the equity crowdfunding offer at hand. They thereby can use their collected knowledge to make better informed investment decisions. This could be especially useful if the company considered for equity crowdfunding has a product or service that can be better understood by users in the crowd then by professional investors, for example a new IOS app or a videogame.

Capital pagers can reduce uncertainty for investors and thereby enhance their chance of a successful campaign by signalling. Signalling is "an attempt by an uninformed party to send an observable indicator of his or her hidden characteristics to an uninformed party" (Baye & Prince, 2014, p. 466). A credible signal is sent when a *capital pager holds equity shares* in his own project (Ahlers, et al., 2015, p. 963).

5.2 Qualitative evaluation

It can be difficult to estimate the true value of an early-stage new venture such as the typical company seeking finance through equity crowdfunding. Common valuation methods require exact financial numbers that equity crowdfunding companies either cannot provide due to its maturity or which does not take the future prospect of the company fully into consideration making the valuation outdated (Miloud, et al., 2012, p.

152). It is therefore important to consider qualitative input factors to assess the attractiveness of the offer.

We will mainly follow a theoretical framework suggested by Miloud, et al. (2012). The framework uses selected strategic qualitative factors from three strategic management theories namely industrial organisation, resource-based view, and network theory for their evaluation model of venture capital. Miloud, et al. (2012) show that these qualitative factors are important for company evaluation by venture capitalists. Following Dorff (2014, p. 493), who states that angel investing is the closest analogue to equity crowdfunding, we believe that the same characteristics can be used to evaluate equity crowdfunding offers.

Industrial organization and start-up valuation

Industrial organization is theories about the functioning of markets (Tirole, 1988, p. 1). The structure-conduct-performance model is important in the field which highlights the important factors in the theories. Companies do not make decisions in a vacuum. The market structure of their business (competition, product differentiation, industry growth rate etc.) affects the company's conduct (price, research and development, advertising etc.) which leads to the company's performance (profits, innovation rate etc.) (ibid.)

Miloud, et al. (2012) find empirical results that *product differentiation* and *industry growth rate* is positively related to the valuation of new ventures.

Resource-based view and start-up valuation

A resource based view focus on a company's resources rather than its products (Wernerfelt, 1984). A resource is a tangible or intangible asset which could be defined as a strength or weakness of a company. Machinery, brand-name, skilled personal and knowledge are examples of resources. A company should exploit existing resources and develop new ones in order to grow (ibid.).

Miloud et al (2012) highlight human capital and more specifically the *management team* as the company's most important resource. They find empirical results that ventures are valued higher if they have *several founders* and *a heterogeneous management team*

with relevant *industry experience*, *previous top management experience* and *previous start-up experience.*

Network theory and start-up valuation

Network theory see networks as an economic organization form which is as an alternative to market and hierarchical organization forms (Larson & Starr, 1993, p. 5) (Powell, 1990, p. 300). Networks depend on individual relationships which take time and effort to establish and sustain. The individuals in the network engage in reciprocal, mutually supportive actions. The individuals gain by the pooling of resources (ibid.).

Miloud et al (2012, pp. 158-159) highlight the importance of networks for entrepreneurial success. They find empirical results that *the network size* of the company is positively related to its valuation.

5.3 Quantitative evaluation

For a quantitative evaluation of companies there exits several financial valuation methods. We will examine seven methods encountered during our interviews. The multiple valuation method and the Discounted free Cash Flow (DCF) method are established methods in financial economics for company valuation. In addition to these we present five Venture Capital valuation methods developed by venture capitalists and business angels. These latter methods are often more rule of thumb valuations which tries to incorporate qualitative aspects into the financial valuation.

Multiple valuation method

Multiple valuation is a method for estimating the value of a company based on the value of a comparable company (Berk & DeMarzo, 2011, p. 269). Companies are rarely fully identical. We can adjust for the differences in size by computing a ratio of the comparable company's value to some measure of the company's scale, for example EBIT (ibid.). Common valuation multiples used are P/E (Price/Earnings), EV/Sales (Enterprise Value/Sales), EV/EBIT and EV/EBITDA. Note that the P/E ratio is not meaningful when firm earnings are negative. In this case, it is common to look at the ratio EV/Sales (Berk & DeMarzo, 2011, p. 34).

Discounted free Cash Flow method (DCF)

The discounted free cash flow method is a method for estimating a company's enterprise value by discounting its future free cash flow (Berk & DeMarzo, 2011). Enterprise value is the market value of equity plus debt minus cash. To compute the free cash flows we make a *free cash flow forecast* for a reasonable period of time, for example the upcoming 5 years. To compute the free cash flow, we use the following formula:

$$Free\ Cash\ Flow = EBIT\ x\ (1 - \tau_C) + Depreciation - Capital\ Expenditures - Increases\ in\ net\ working\ capital$$

To complete the calculation, we first need to make a forecasted income statements for the same period. This is called a *Pro forma income statement*. In the Pro forma income statement, we find forecasted values for $EBIT\ x\ (1 - \tau_C)$ and depreciation. We also need to find information about the company's planned capital expenditures. Thereafter we use the *Net working capital forecast* for assessments about increases in net working capital. Net working Capital is the company current assets minus its current liabilities. The increase in net working capital is computed as the difference between the current and the previous year's net working capital (Berk & DeMarzo, 2011, p. 191). With these forecasted financial figures, we can complete the free cash flow forecast.

To discount the value of the cash flows we need a discount rate. In the DCF model we use the Weighted Average Cost of Capital which is the average cost of capital for both debt and equity holders (Berk & DeMarzo, 2011, p. 266). The formula for calculating WACC is:

$$r_{wacc} = \frac{E}{E+D} r_E + \frac{D}{E+D} r_D (1 - \tau_C)$$

E=Market value of Equity, D=Market value of debt, r_E=Cost of equity, r_D =Cost of debt, τ_C=Corporate tax rate.

To compute WACC we need to compute r_E (the cost of equity). We use the CAPM formula:

$$r_E = r_{rF} + \beta(r_M - r_{rF})$$

r_{rF}= Risk free rate, β=The volatility towards the market, r_M= Expected market return

Before we discount the cash flows we need an estimation of the value of the company beyond the forecast horizon. The enterprise value of the company is the value of all its future cash flows. We have only forecasted the cash flows for the coming five years because it can be hard to make reliable assessments about cash flows in a distant future. We handle this by estimating the cash flows beyond the forecast horizon in an additional one-time cash flow. This is called terminal or continuation value (Berk & DeMarzo, 2011, p. 198). To compute the continuation value, we assume that the cash flows will grow at a constant rate beyond the forecast horizon.

$$Continuation\ value\ in\ year\ T = PV(FCF\ in\ year\ T+1\ and\ beyond) = \frac{FCF_{year\ T}\ x\ (1+g)}{r-g}$$

g=Growth rate, r= Discount rate

Finally, we are ready to discount the free cash flow and the continuation value to estimate the enterprise value of the company.

$$EV_0 = \frac{FCF_{Forecast\ year\ 1}}{1+r_{wacc}} + \frac{FCF_{Forecast\ year\ 2}}{1+r_{wacc}{}^2} + \frac{FCF_{Forecast\ year\ 3}}{1+r_{wacc}{}^3} + \frac{FCF_{Forecast\ year\ 4}}{1+r_{wacc}{}^4} + \frac{FCF_{Forecast\ year\ 5} + Continuation\ value}{1+r_{wacc}{}^5}$$

The First Chicago Method

"The First Chicago method is a situation specific business valuation approach used by venture capital and private equity investors for early stage companies" (Hashemi, 2015). The first Chicago method deals with uncertainty's by computing three outcomes from firm value: worst, normal, and best case. The final valuation is computed as the weighted average of these three valuations. (Nasser & de Cambourg, 2016)

The first Chicago method starts with an estimated valuation of the company for the worst, normal and best case scenario. The valuation is made for a desired future exit time normally five years later. This valuation is done using the DCF method. Thereafter probabilities are assigned for each scenario and finally the weighted sum are computed. (Hashemi, 2015)

The Berkus method

The Berkus method was originally created in 1990, and the main purpose is to valuate pre-revenue start-up technology companies. After the first real income statement the common method is to use revenues to project value over time. (Berkus, 2016)

The Idea behind the Berkus Method is to assign a maximum value for five risk factors in a start-up company. These factors and the maximum values can be changed to match the company and the industry. For a company to be considered they should be able to earn over 20 MUSD in gross revenue in five years. (Berkus, 2016)

THE BERKUS METHOD	
If exits:	**Adds company value up to:**
Sound idea (Basic Value)	$1/2 million
Prototype (Reducing technology risk)	$1/2 million
Quality Management Team (Reducing execution risk)	$1/2 million
Strategic relationships (Reducing market risk)	$1/2 million
Product Roll-out or Sales (reducing production risk)	$1/2 million

Table 1:The original Berkus method. (Berkus, 2016)

To determine a company's pre-revenue start-up value is hard and differ between industries and countries (Berkus, 2016). Berkus says that a normal pre-money valuation is up to $2 MUSD and post-rollout value of up to 2,5 MUSD depending on the perfection on all five factors.

The Scorecard valuation method

The Scorecard valuation method is used to compare the target company with recently funded comparable start-up companies and establish a pre-money valuation. The model is mainly intended for computing a valuation of a pre-revenue start-up company.

Step one in this model is to determine an average pre-money valuation for comparable companies in the same region or business. If that is not possible booth Bill Payne and Lennart Blomdahl at Pepins are mentioning a value of 1.5-2.5 million dollars. (Payne, 2011).

Step two is comparing the target company with other companies using the factors shown in the table below. An estimation of 100% is a normal outcome, 150% means a large potential of success and less than 100% is a week outcome. If the target company is considered to have a strong team, 125% of norm, they get a factor of 0,375 (30% * 125%). This is computed for all factors.

THE SCORE CARD VALUATION METHOD			
Comparison factor	**Range**	**Target company**	**Factor**
Strength of Entrepreneur and Team	30% max	125%	0,375
Size of the Opportunity	25% max	150%	0,375
Product/Technology	15% max	100%	0,15
Competitive Environment	10% max	75%	0,075
Marketing/Sales/Partnerships	10% max	80%	0,08
Need for Additional Investment	5% max	100%	0,05
Other factors	5% max	100%	0,05
Sum			1,075

Table 2: Example of the Scorecard valuation method. (Payne, 2011)

The summation of the factors is multiplied with the average pre-money valuation from step one to receive a pre-money valuation of the target company.

The Risk factor summation Method

The Risk factor summation method is another method that is good for valuation of pre-revenue start-up companies. The Risk factor summation method is more complex and considers more variables then the Berkus method and the Scorecard valuation method. Initially we estimate a pre-money valuation of the company based on the average industry pre-money valuation. Thereafter the objective is to analyse different risks with the investment and use a five-grade rating system to compute adjustments of the pre-money valuation. The risk factors should be adjusted to the present industry and the target company. (Kowlessar, 2016)

Raiting	**Risk Rationale**	**Adjustment to Pre-Money Valuation**
+2	Extremely Positive Mitigation	Add 500 000
+1	Positive Mitigation	Add 250 000
0	Neutral	Add/Minus Nothing
-1	Negative mitigation	Minus 250 000
-2	Extremely negative mitigation	Minus 500 000

Table 3: The five-grade rating system for the Risk factor summation method. (Kowlessar, 2016)

THE RISK FACTOR SUMMATION METHOD		
Risk Factors	**Raitings**	**Additions/Subtractions**
Management risk		
Stage of the business		
Legislation/Political risk		
Manufacturing risk (or supply chain risk)		
Sales and marketing risk		
Funding/capital raising risk		
Competition risk		
Technology risk		
Litigation risk		
International risk		
Reputation risk		
Exit value risk		
	Sum	

Table 4: The Risk factor summation method. (Kowlessar, 2016)

The summation from the model is added to the pre-money valuation.

The Venture Capital Method

The Venture capital method is used for valuation of pre-revenue start-up companies. The method is based upon three parts: Return on Investment (ROI), Terminal value (continuation value) and Post-money valuation. (Payne, 2011) The Terminal value is the anticipated selling price for the company for example 5-8 years after the investment (Payne, 2011). Post-money valuation can be computed by dividing the Terminal Value with ROI. The pre-money valuation is computed by subtracting the investment sum from the post-money valuation (Payne, 2011). The investor might need to adjust for dilution (Nasser & de Cambourg, 2016).

Authors comments

The different methods will fit differently depending on which stage the company is in. The multiple valuation method and the DCF method fits best for companies in the growth stage or later where we have financial information to analyse. The venture capital valuation methods are intended for valuation of pre-revenue start-up companies but are used for companies in later stages as well. We suggest that investors consider and compute all models possible when evaluating an equity crowdfunding offer regardless of the stage the company is in.

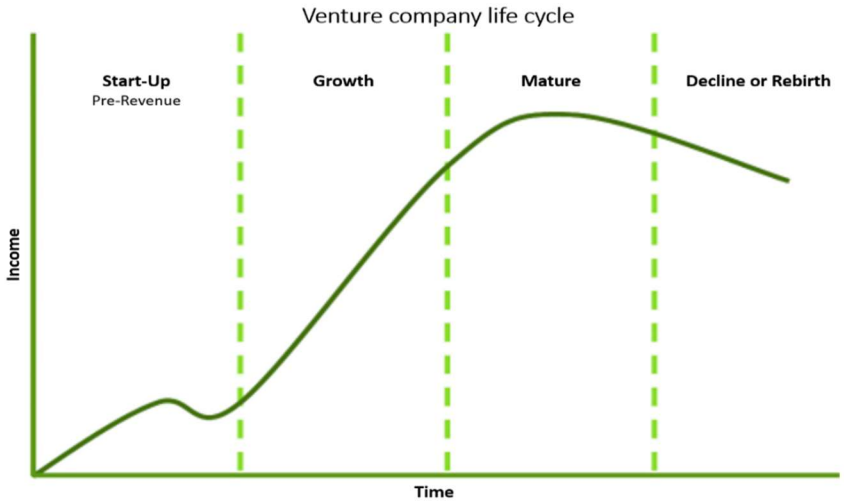

Figure 1: The venture company life cycle. Based on a picture from Right Start Consulting, Inc (u.d.).

5.4 Suggested framework

Based on the interviews and the theoretical review we have developed a framework that considers asymmetric information and demonstrates how the qualitative and quantitative analysis can be assembled in one model for company valuation. The framework start with check that adequate information, for the forthcoming analysis, is available to mitigate asymmetric information. Information can be obtained from prospectus published on the crowdfunding platform, from annual reports, forum and other open sources. Thereafter there is a two-step valuation model. Step 1 is a qualitative valuation of the company's strategic qualitative factors previously described. After step 1 the investor reaches his first decision point (DP) where he decides if he wants to continue to the next step or, if discouraged, abort the investment consideration. Step 2 is a quantitative valuation of the value of the company computed with suitable financial valuation methods. After step 2 the investor reach the final decision point where he chooses if he wants to invest in the company or not.

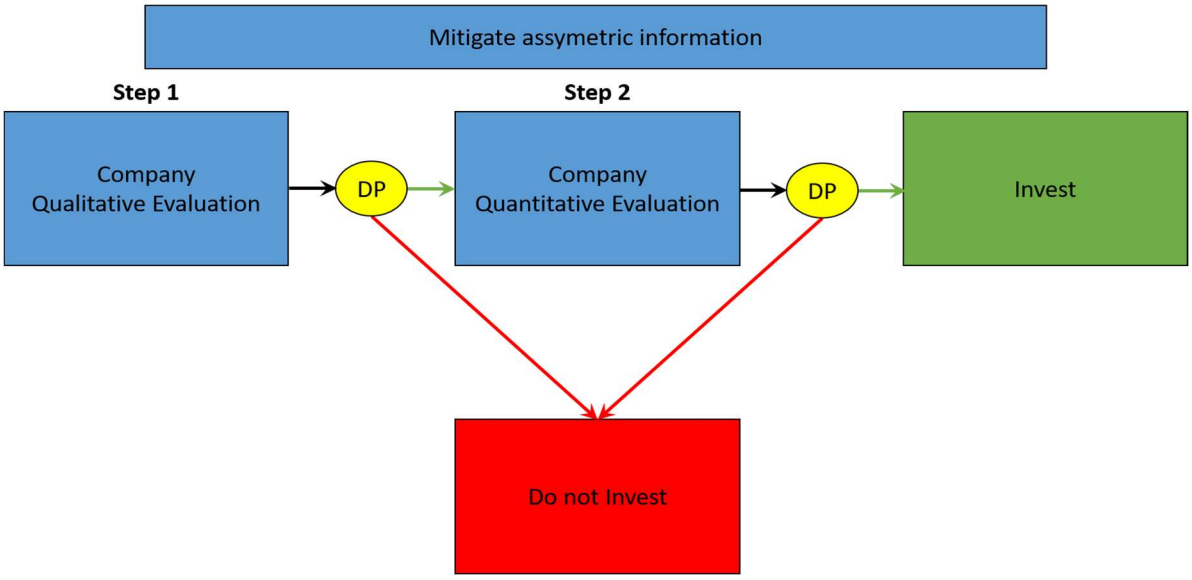

Figure 2: Suggested framework for equity crowdfunding evaluation.

6 CASE STUDY

We will apply our suggested framework on a recent crowdfunding campaign to develop and test a model for equity crowdfunding evaluation.

6.1 Barista Fair Trade coffee

Barista Fair Trade Coffee is a Swedish coffee chain with a niche towards Fairtrade, organic and sustainability. The company raised equity on Pepins crowdfunding platform autumn 2016. Barista is an unusual equity crowdfunding offer. Pepins usually fund young companies in a growth face which need additional capital (Blomdahl, 2016). Barista is a turnaround case which has struggled financially and operationally the latest years. Today the company's financial situation is hard due to yearly interests cost of 2,8 million SEK and a loss of 22,45 million SEK in 2015. The reason behind this poor result comes from lack of cost control, bad valuation of investments in different units and high administrative costs after receiving venture capital. In the control balance sheet for mid-2016 (Barista FTC AB, Board, 2016, p. 25) it appears that Baristas book value of equity is negative and the company therefore faces a risk of compulsory liquidation. It therefore seems as this equity crowdfunding campaign was a last resort for Barista.

The crowdfunding campaign was smartly presented on Pepins crowdfunding platform. In addition to the information presented online the investor could also download a short

presentation of Barista and a memorandum[3] with details about the offer. The annual reports, for the two latest years, were also available on the website. Finally, investors could ask questions to the owners of the company and discuss the case on an online forum created for the specific campaign.

The Pre-money valuation of Barista was 3 233 500 SEK with 161 675 shares outstanding. The share price was set to 20 SEK. Baristas crowdfunding offer was a directed rights issue of a minimum of 20 million SEK (1000000 shares) and a maximum of 35 million SEK (1750000 shares).

Asymmetric information

The problem with asymmetric information is not imminent in the Barista case. The memorandum for Barista is comprehensive and includes important information about the company and the market and presents potential risk factors. Pepins have a forum for every campaign on their website which also reduces the problem. Potential investors have a good opportunity to use the wisdom of the crowd and discuss the offer and share information with each other. Baristas CEO, Björn Almér, is active in the forum and answers questions from potential investors. A positive signal is that Almér does have equity shares in Barista and he states in the forum that he "has bought all that he can express in the issue". The owners' equity share will however be substantially diluted after the issue.

In sum, we believe we have adequate information available for an analyse of Barista.

Step 1, Qualitative evaluation

In this section, we analyse important strategic qualitative factors for company valuation. We assign each factor with a grade of positive, neutral or negative in relation to there competetors.

[3] A memorandum is similar to a prospectus but since the amount offered is lower than 2 500 000 € it does not need to be prepared according the law (1991:980) about trade with financial instruments or be approved and registered by Finansinspektionen (Barista FTC AB, Board, 2016, p. 2). Barista actually conducted two rights issues, one to identified investors and the other was the equity crowdfunding offer where the total amount was not to exceed 2,5 millon EUR (Barista FTC AB, Board, 2016).

Product differentiation

Baristas business idea states that they stand for "a new world where conscious individuals demand high quality in both product and ethics" (Barista FTC AB, Board, 2016, p. 8). Barista try to differentiate themselves with a niche towards fair-trade, organic and sustainability. They however admit that this niche is starting to get mainstream as the competition has followed. Barista nevertheless believe that they have a first mover advantage and with that good credibility. Barista serve quality coffee at a premium price level. In sum we value the factor *product differentiation* as Neutral.

Industry growth rate

The Swedish market for so-called Branded Coffee shops is among the fastest growing in Europe and generated sales of 1.6 billion in 403 coffee shops in 2015. The average sales growth in the past five years is + 13.6%. The market is expected to reach a turnover of over 3 billion in 2020. (Barista FTC AB, Board, 2016, p. 8). In sum, we value the factor *industry growth rate* as Positive.

Team

Björn Almér (CEO of Barista) definitely has *relevant industry experience, previous top management experience and previous startup experience.* He was the founder of Barista in 2006 but was replaced as CEO in 2013 due to bad results. That did not improve the situation for Barista but rather the opposite. Almér started working at Espresso House and managed to turn around their struggling business from losses to profitability (Barista FTC AB, Board, 2016, p. 5). Almér has also been Marketing Manager and business developer for Oriflame (Barista FTC AB, Board, 2016, p. 26).

Björn Almér is the *only founder* of Barista that is fully employed today. However, during the turn-around period, spring 2016, Björn had help from the co-founder Nina Forsberg (Barista FTC AB, Board, 2016, p. 22). Together they decreased the head office, disposed unprofitable units, reinstated focus on human resources etcetera. Almér also hired the co-founder Maria Andersson on a consult-basis, autumn 2016, for help with corporate culture (Barista FTC AB, Board, 2016, p. 26).

Concerning the factor *small but heterogeneous management team* Barista have decreased their head office during the turn-around phase to save money. Barista today

only has three persons working full time in the management team (Barista FTC AB, Board, 2016, p. 22). These are Björn Almér (CEO), Eric Jacobsson (construction & maintenance) and Vanja Vracar (financial manager) (Barista FTC AB, Board, 2016, p. 26). Almér is a MBA in controlling, an experienced CEO, has good industry experience and has knowledge of the market due to previous managerial positions. Jacobsson has worked at both Espresso House and Barista and has experience as site manager, regional chief and with construction and management. Vracar is an MBA and accountant. In addition to the fully employed management team they have individuals working part time or on a consultant basis.

In sum, we value the factors *relevant industry experience, previous top management experience, previous start-up experience and one or several founders* as Positive. We value the factor *small but heterogeneous management team* as Neutral.

Network size

Barista and its CEO, Björn Almér, potentially have a good network due to their reputation and Alméns experience from the industry. We will however only mention directly pronounced business contacts mentioned in the Barista memorandum.

As mentioned above, the co-founders of Barista Nina Forsberg and Maria Andersson was hired on a consultant basis previously this year. This is good examples of valuable contacts that Almér has used and probably can use if needed.

Barista has a collaboration with Ben&Jerry (Unilever) who uses Baristas concept through license rights on two units, with a potential for roll out (Barista FTC AB, Board, 2016, p. 8). In the Barista memorandum Almér points out that Barista have a good collaboration with SF Bio (Götgatan, Stockholm) which potentially could lead to more establishments with SF Bio (Barista FTC AB, Board, 2016, p. 16). Almér also highlights that they have a good connection with the real estate company Wallenstam which he believes can help them finding new good locations (Barista FTC AB, Board, 2016, p. 20).

In sum, we value the factor *Network size* as Neutral.

Step 2, Quantitative evaluation

To use the valuation methods and conduct a quantitative evaluation of Baristas offer we have analysed the latest annual reports and the memorandum where Barista present their planned operational improvements. We will also use the result from the qualitative analysis as input in our models where applicable.

Multiple valuation model

Baristas is competing in the market for branded coffee shops selling quality coffee at a premium price level (Barista FTC AB, Board, 2016, p. 9). The market for branded coffee shops in Sweden had a turnover of 1,6 billion SEK 2015. The growth rate is 13,6% per year. Barista only has a small fraction of the market with their 19 units (Barista FTC AB, Board, 2016). Baristas closest competitors are the market leaders Espresso House and Wayne's Coffee, which controls two thirds of the market. Other close competitors are Coffeehouse by George, Robert's Coffee, Condeco, Caffè Ritazza and Starbucks (ibid.). Wayne's Coffee, Coffee house by George, Robert's Coffee, are franchise concept which means that their financial statements are not perfectly comparable. Caffè Ritazza and Starbucks are brands organized under larger corporations and we were not able to retrieve financial data on brand level. Both Espresso House and Condeco are private companies and therefore it is hard to estimate a reliable enterprise value. Espresso House however was acquired by JAB Holding Co the 2nd of June 2015 (Hercules Capital, 2015). The purchase sum was 2 200 million NOK (Unquote, 2015). That is 2 354 million SEK calculated with the, at the time, current exchange rate of 1,07 SEK for 1 NOK (Finansportalen, 2016). We will use the purchase sum as the enterprise value of Espresso House. Since this is our only reliable enterprise valuation we have chosen to benchmark towards Espresso House alone. We collected the financial statement for Espresso House from Bolagsverkets website for a minor administrative fee (Bolagsverket, 2016).

Sweden 2015	**Market (Branded Coffee Shops)**	**Barista FTC AB, Mid 2016**	**Espresso House, End 2015**
Revenue	1,6 billion SEK	67,480 million SEK	1,066 billion SEK
Outlets	405	19	189
Profit -margin		-29,12%	13,21%
Equity -Ratio		10,05%	35,71%
Revenue/outlet		3,55 million SEK	5,64 million SEK

Table 5: Financial data for the market of Branded Coffee Shops, Barista and Espresso House

We can compare Barista with Espresso House by computing financial ratios. It is not meaningful to compute the P/E, EV/EBIT and EV/EBITDA ratios as earnings, EBIT and EBITDA are negative for Barista.

Ratio	Espresso House, End 2015
P/E	N/A
EV/Sales	2,481
EV/EBIT	N/A
EV/EBITDA	N/A

Table 6: Barista Financial Ratio Comparison

We can compute a valuation based on the EV/Sales ratio for Espresso House. If we multiply the ratio with Baristas sales for 2015 we get a valuation of 152 403 million SEK. The valuation for Barista would be reasonable given that all other factors were identical to Espresso House. Today they are not. Espresso House haven an EBITDA margin of 17,6% compared to Baristas of -12,56%. The valuation does however show that there exists market potential if Barista can improve their operations. To compute Baristas enterprise value, we need to subtract Baristas net debt. 152 403 – 29 079[4] = 123 324. The Multiple valuation method an estimation of Baristas enterprise value of **123 324 thousand SEK.**

Discounted Cash Flow (DCF) analysis

In this section, we will use the DCF method to compute an enterprise value for Barista. We will base our analyse upon Baristas annual report for 2015, the information regarding operational improvements, and the income statement and balance sheet for mid-2016 given in the memorandum. In the whole DCF analysis data presented in black are actual figures and data presented in blue are forecasted figures.

Our first step is to make a *Pro forma income statement.* We have decided to forecast Baristas net income for the coming five years, 2017-2021. Interest expenses, depreciation and the bottom line, net income, is used in the free cash flow forecast. The Pro forma income statement is attached in appendix 2.

The next step is the *Net working capital forecast* for the same forecast period, 2017-2021. Net working capital is the capital required in the short term to run the business

[4] We have used the financial figures from Baristas balance sheet mid 2016 given in the memorandum (Barista FTC AB, Board, 2016).

(Berk & DeMarzo, 2011, p. 848). The bottom line, The Increase in net working capital is used in the free cash flow forecast. The net working capital forecast is attached in appendix 3.

Baristas net working capital for 2015 is negative. The current ratio, which is current assets divided by current liabilities (Berk & DeMarzo, 2011, p. 28), is below one, more particularly 0,36. A current ratio below 1 usually raise concern over the company's liquidity (Law, 2016). The market leader, Espresso House, also has a negative net working capital for 2015 and a current ratio of 0,65. We will make an assessment that Barista will match the current ratio of the market leader with their raised equity. They will enable this by increasing their cash balance.

The next step is the *Free cash flow forecast* for the same forecasting period, 2017-2021. To make the Free cash flow forecast we will use inputs from the Pro forma income statement, the net working capital forecast and make an assessment of the capital expenditures for the forecast period. The free cash flow forecast is attached in appendix 4.

The next step is to compute the *Weighted Average Cost of Capital (WACC).*

$r_{wacc} = \frac{E}{E+D} r_E + \frac{D}{E+D} r_D(1 - \tau_C)$ = 7,50%

We assume that Barista will change their capital structure to match the market leader Espresso House after raising equity. Espresso House have an equity/total assets (E/E+D) ratio of 0,357 and debt/total assets (D/E+D) ratio of 0,643. The debt cost of capital (r_D) is set to 5,76% as stated in footnote 9. The corporate tax rate is 22% (Tillväxtverket, 2016). To compute the equity cost of capital (r_E) we use the CAPM formula.

$r_E = r_{rF} + \beta\ (r_M - r_{rF}\ )$ = 12,92

For the risk-free market rate (r_{rF}) we use the 10-year Swedish treasury bond. On the latest auction the bonds had an average interest rate of 0,5791% (Riksgälden, 2016). The demanded risk premium for the Swedish stock market is given in a study by Price Water House Coopers (PWC, 2016) which sets the premium to 6,5%. Thus, the expected market return (r_M) is 7,0791%. For the beta (β) we have used an unlevered international

industry beta for the restaurant/dining market of 0,64 (NYU Stern School of business, 2016). We then computed the levered beta.

$\beta_L = [1 + (1 - \tau_C)\frac{D}{E}\ \beta_U$ = 1,90

The weighted average cost of capital is 7,50%.

The next step is to compute the *Continuation Value for Barista.* We have computed a forecast for Baristas free cash flows for the coming 5 years. We make a careful assessment that Baristas free cash flow will grow at a constant rate 4%[5] per year after 2021. If we use a to high growth rate the continuation value will have to much impact on the enterprise value.

$$Continuation\ value\ in\ year\ T = \frac{FCF_{year\ T}\ x\ (1+g)}{r-g} = 295\ 639\ thousand\ SEK$$

Finally we are ready to discount the free cash flow and the continuation value to estimate the enterprise value of Barista based on the DCFF analysis.

$$V_0 = \frac{FCF_{2017}}{1+r_{wacc}} + \frac{FCF_{2018}}{1+r_{wacc}{}^2} + \frac{FCF_{2019}}{1+r_{wacc}{}^3} + \frac{FCF_{2020}}{1+r_{wacc}{}^4} + \frac{FCF_{2021} + Continuation\ value}{1+r_{wacc}{}^5} = \mathbf{207\ 978\ thousand\ SEK}$$

To compute Baristas enterprise value, we need to subtract Baristas net debt. 207 978 – 29 079[6] = 178 899 The discounted cash flow analysis gives an estimation of Baristas enterprise value of **178 899 thousand SEK.** If Baristas follow the operational improvements stated on the memorandum they will receive a positive net income and a cash flow strong enough for making investments in new locations.

The First Chicago Method

In the discounted cash flow analysis, we computed a valuation Barista of 207 978 thousand SEK. We will use this as a best-case scenario because the discounted cash flow analysis is mainly based on the operational improvements and goals Barista intend to achieve. There is a risk that these targets are too optimistic. We will use 50% as mid case

[5] "The perpetuity growth rate is typically between the historical inflation rate of 2-3% and the historical GDP growth rate of 4-5%. If you assume a perpetuity growth rate in excess of 5%" (Macabus LLC, 2017)
[6] We have used the financial figures from Baristas balance sheet mid 2016 given in the memorandum (Barista FTC AB, Board, 2016).

scenario and 25% as worst case scenario. We assign a 25% probability for the worst and best case respectively and a 50% probability for the mid case. This gives us a valuation of 116 988 thousand SEK. To compute Baristas enterprise value, we need to subtract Baristas net debt. 116 988 – 29 079 = 87 909. The First Chicago method gives an estimation of Baristas enterprise value of **87 909 thousand SEK.**

First Chicago method Barista			
Financial forecast	Worst Case	Mid Case	Best Case
Firm value	51995	103989	207978
Probability	25,00%	50,00%	25,00%
Value	12999	51995	51995
Enterprise value	116988		

Table 7: The First Chicago method for our Barista analysis.

The Berkus method

The Berkus Method is normally used for pre-revenue valuation of a technology start-up company that has the potential to reach a revenue of over 20 million USD in revenues within five years (Berkus, 2012). Barista does not meet either of these requirements. To use this method for a valuation of Barista we would need to modify the method considerable which would affect the validity of the model. We have therefore chosen not to use the method for Barista.

The Score Card valuation method

The Score Card valuation method is meant for pre-revenue start-up companies. However, the method are used for valuation of companies in other stages as well, as shown in the empiricism section. We will use the method to compute a valuation for Barista.

We will compare Barista with Espresso House and use the valuation from the Multiple valuation method of 123 324 thousand SEK as a starting point. We will compare Barista with Espresso House using the comparison factors.

<u>Strength of Entrepreneur and Team</u>

The CEO of Barista Björn Almér previously was the CEO of Espresso House and should be able to take credit for the company's success story. As we have the same CEO as Espresso House had at the time of the valuation we assign 100% to this factor.

Size of the Opportunity

Barista is a small company with growth potential. We believe Barista with their 9 coffee shops have a considerably higher growth opportunity than the market leader Espresso House with their close to 200 coffee shops. We assign 150% to this factor.

Product/Technology

Barista have a stronger focus on fairtrade, sustainability and premium coffee than Espresso House. They however have lower margins. We assign 100% to this factor.

Competitive Environment

As a small actor, Barista are more sensitive to competition than the market leader. We assign 75% to this factor.

Marketing/Sales/Partnerships

Barista does not have the same opportunity for marketing as a small company. We also believe Espresso House have a better network of contacts because of their size. Espresso House already rent 200 locations and probably have good contacts if they want to open another one. We assign 75% to this factor.

Need for Additional Investment

In terms of investment needs there are probably both benefits and disadvantages with being a small or big company respectively. We assign 100% to this factor.

Other factors

Espresso House does have advantages being the market leader. Barista cannot afford to establish an unprofitable location as it will affect the company's result significantly. Espresso House have a better opportunity for risk management. We assign 50% to this factor.

THE SCORE CARD VALUATION METHOD			
Comparison factor	**Range**	**Target company**	**Factor**
Strength of Entrepreneur and Team	30% max	100%	0,3
Size of the Opportunity	25% max	150%	0,375
Product/Technology	15% max	100%	0,15
Competitive Environment	10% max	75%	0,075
Marketing/Sales/Partnerships	10% max	75%	0,075
Need for Additional Investment	5% max	100%	0,05
Other factors	5% max	50%	0,025
Sum			1,05

Table 8: Example of the Scorecard valuation method. (Payne, 2011)

We multiply the sum of 1,05 with 123 324 thousand SEK and get an enterprise value of **129 490 thousand SEK.**

The Risk factor summation method

The Risk factor summation method is also meant for pre-revenue start-up companies. However, the method are used for valuation of companies in other stages as well, as shown in the empiricism section. We will use the method to compute a valuation for Barista.

We will compare Barista with Espresso House and use the valuation from the Multiple valuation method of 123 324 million SEK as a starting point. We will compare Barista with Espresso House towards the risk factors and use the five-grade rating system to compute adjustments to the valuation. We have changed the adjustments to fit our case.

Raiting	**Risk Rationale**	**Adjustment to Pre-Money Valuation**
+2	Extremely Positive Mitigation	Add 1 000 000 SEK
+1	Positive Mitigation	Add 500 000 SEK
0	Neutral	Add/Minus Nothing
-1	Negative mitigation	Minus 500 000 SEK
-2	Extremely negative mitigation	Minus 1 000 000 SEK

Table 9: The five-grade rating system for the Risk factor summation method. (Kowlessar, 2016)

Management risk

Barista is strongly dependent on their CEO Björn Almér. If he leaves for any reason the future becomes uncertain. Rating -1.

Stage of the business

Barista is in a turnaround phase with a risk of compulsory liquidation. Rating -2.

Legislation/Political risk

We consider legislation/political risk as equal for both companies. Rating 0.

Manufacturing risk (or supply chain risk)

We consider legislation/political risk as equal for both companies. Rating 0.

Sales and marketing risk

Barista are more sensitive to the sale figures of every single location. Rating -1.

Funding/capital raising risk

Barista risk compulsory liquidation. This is probably Baristas last chance to raise money and they need to prove successful to raise more equity in the future. Rating -2.

Competition risk

Barista are more sensitive for competition than Espresso House. Rating -1.

Technology risk

We consider technology risk as equal for both companies. Rating 0.

Litigation risk

Barista have liquidity problems and therefore are sensitive towards litigation risk. Rating -1.

International risk

Barista only have coffee shops in Sweden at the moment. Rating 0.

Reputation risk

Barista are more sensitive towards reputation. They have a niche towards fair-trade and sustainability and must appear credible to keep customers. They are a small actor that's want to grow and cannot afford bad publicity. Rating -1.

Exit value risk

We consider exit value risk as equal for both companies. Rating 0.

THE RISK FACTOR SUMMATION METHOD		
Risk Factors	**Raitings**	**Additions/Subtractions**
Management risk	-1	-500 000 SEK
Stage of the business	-2	-1 000 000 SEK
Legislation/Political risk	0	0
Manufacturing risk (or supply chain risk)	0	0
Sales and marketing risk	-1	-500 000 SEK
Funding/capital raising risk	-2	-1 000 000 SEK
Competition risk	-1	-500 000 SEK
Technology risk	0	0
Litigation risk	-1	-500 000SEK
International risk	0	0
Reputation risk	-1	-500 000 SEK
Exit value risk	0	0
	Sum	4 500 000

Table 10: The Risk factor summation method. (Kowlessar, 2016)

We subtract 4 500 thousand SEK from 123 324 thousand SEK and get an enterprise value of **118 824 thousand SEK.**

The Venture Capital method

The Venture Capital method is also meant for pre-revenue start-up companies. However, the method is used for valuation of companies in other stages as well, as shown in the empiricism section. We will use the method to compute a valuation for Barista.

We will use the valuation from the Discounted Cash Flow method of 178 899 thousand SEK as a terminal value five years from now. Instead of setting a desired Return on investment we will compute what the ROI becomes based on the capital rasied in the campaign. If Barista raise the medium amount of 27,5 million SEK.

Pre-money valuation = 3 233 500 SEK

Post-money valuation = 30 733 500 SEK

Terminal Value = 178 899 000 SEK

$$ROI = \frac{Terminal\ Value}{Post - money\ valuation} = 5.82\ x\ investment$$

If Barista raise 27,5 million SEK in the campaign and manage to reach an evaluation of 178.899 million SEK the ROI is 5.82 times the money.

Result

We will present the result in our suggested model for investors evaluation of equity crowdfunding offers.

MODEL FOR EVALUATION OF AN EQUITY CROWDFUNDING OFFER			
Company:	Barista FTC AB		
			Yes/No
Mitigate assymetric information: Is adequat information avaliable for the analysis?			Yes
Step 1: Qualitative evaluation		**Step 2: Quantitative evaluation**	
Investment criteria	**Positive/Negative**	**Valuation method**	**Value**
Product differentation	Neutral	Multiple valuation	123 324 000 SEK
Industry growth rate	Positive	DCF	178 899 000 SEK
Team		First Chicago	87 909 000 SEK
- Relevant industry experience	Positive	Berkus	N/A
- Previous top management experience	Positive	Scorecard valuation	129 490 000 SEK
-Previous startup experience	Positive	Risk factor summation	118 824 000 SEK
- One or several founders	Positive	**Average**	**127 689 200 SEK**
- Hetereogenus management team	Negative		
	5 Positive		**ROI**
Total	1 Negative	**Venture capital**	5,82
	1 Neutral		
Continue valuation?	Yes	**Invest?**	Yes

Table 11: The result for the Barista case study presented in our suggested model for equity crowdfunding evaluation

Starting from the top, the model highlights asymmetric information. The investor should initially evaluate if he has the information necessary to continue with the qualitative and quantitative evaluation of the company. For Barista we have considered the information supplied by Pepins, the forum on Pepins platform and information obtained from open sources. We consider the available information as adequate and we therefore continue our analyse. Step one presents the evaluation of the qualitative criteria's. We will not set an exact amount of positive ticks for an offer to be interesting. It is up to the investor to make an assessment based on which criteria's he/her values the most. For Barista we consider the overall result from step one as positive and we therefore continue to step two. Step two present the result from several financial valuations of the company five years from now. For Barista we used all methods except the Berkus method as we found this method as not applicable for our case. Our step two evaluation of Barista yielded an average valuation of 127 689 thousand SEK. The average valuation can be interesting but the investor should also study and consider the results from every single valuation method. Finally, the venture capital method gives us an estimation about the ROI we

can expect based on a valuation five years from now. For Barista we consider the overall result from step two as positive and our conclusion is that Barista can be an interesting investment opportunity and an investor should add Barista to their portfolio of investments.

Baristas campaign was successful and they raised 21 million SEK in their crowdfunding campaign which ended the 14th of December 2016 (Pepins, 2016). An equity raise of 21 000 000 SEK means 1 050 000 shares. Adding the original 161 675 shares yields a total of 1 211 675 total shares outstanding. The new shareholders own 86,7% of the total shares outstanding after the equity raise. There is a risk for dilution as Pepins and the original owners have stock options outstanding. Even with this in mind the offer looks interesting.

7. DISCUSSION

To answer our research questions, and develop a model for how investors can evaluate equity crowdfunding offers, we started with observations of how professional investors proceeded when evaluating these offers. Our interviews with the two crowdfunding platforms Pepins and Innovestor gave us insights that determined the theoretical basis for this report. Our suggested evaluation methods, the suggested framework and model for equity crowdfunding evaluation is therefore based on a both practical and theoretical foundation.

It is important to acknowledge that all forecasts are based on assumptions and we cannot know the true result until after the forecast period is over. The quantitative evaluation methods used in our model are the most sensitive to assumptions regarding the prospect of the company. The multiple valuation method and the discounted free cash flow method are only possible to use for companies that already are experiencing revenues. This means that the projection methods at least have reliable starting points. However, to make an estimation about the enterprise value of the company an investor still need to make strong assumptions about the company's future operations. The venture capital valuation methods on the other hand are created for valuation of pre-revenue start-up companies and are therefore only based on assumptions about the company's prospect. In order to use these methods we often need to adjust the models

to fit the company at hand. The investor need to be careful when making these adjustments not to compromise the validity of the model. The bottom line is that an investor need to critically consider the results from the models and not take them as a truth. They only provide an indication to evaluate if the investment is interesting or not. We think that an important strength of our model is the use of several different methods for company valuation where the investor can compare the different results and thereby make a better-informed investment decision.

8. CONCLUSION

The purpose of this study is to develop a model for how investors should evaluate equity crowdfunding offers. It is important to note that we do not believe it is possible to cherry pick the winners. All investors should have a diversified portfolio of different assets to decrease risk. With that as a starting point we have investigated how an investor should evaluate equity crowdfunding offers to make well-informed decisions about which companies to add to their portfolio. We do believe you can get a higher success rate with a thorough evaluation and that you can increase the risk of investing in overvalued companies with bad prospects.

Investors can evaluate equity crowdfunding offers by probe certain qualitative criteria of the company and by using financial valuation methods to compute an estimated valuation of the company.

To make a qualitative evaluation of an equity crowdfunding offer the investor should examine the following criteria: Product differentiation, industry growth rate, several team criteria's and network size.

To make a quantitative evaluation of an equity crowdfunding offer the investor can use the multiple valuation method, the discounted cash flow method and venture capital valuation methods as presented in our model.

To mitigate the problem of asymmetric information the investor should only consider an investment if he believes he has the necessary information needed for the evaluation model. This information should be provided by the company raising equity or the crowdfunding platform. The investor should also use other open sources to obtain

additional information. If possible the investor should use the “wisdom of the crowd”, online forums and investment club’s etcetera, to gain additional knowledge regarding the offer.

We suggest the following model for an investor to use when evaluating equity crowdfunding offers.

MODEL FOR EVALUATION OF AN EQUITY CROWDFUNDING OFFER			
Company:			
			Yes/No
Mitigate assymetric information: Is adequat information avaliable for the analysis?			
Step 1: Qualitative evaluation		**Step 2: Quantitative evaluation**	
Investment criteria	**Positive/Negative**	**Valuation method**	**Value**
Product differentation		Multiple valuation	
Industry growth rate		DCF	
Team		First Chicago	
- Relevant industry experience		Berkus	
- Previous top management experience		Scorecard valuation	
-Previous startup experience		Risk factor summation	
- One or several founders		**Average**	
- Hetereogenus management team			
			ROI
Total		**Venture capital**	
Continue valuation?		**Invest?**	

Table 12: Our suggested model for investor evaluation of equity crowdfunding offers.

For future research, we inquire studies concerning the outcome from equity crowdfunding offers in Sweden. Possible research questions are: What is the success rate for equity crowdfunding offers in Sweden? Is there a difference in success ratio between offers on active and passive crowdfunding platforms? Which valuation methods yields the best results? We also would like to test our model to see if it can achieve a higher success ratio then gut feeling investments.

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10. APPENDIX

Appendix 1: Interview questions

The questions were written in Swedish and are translated to English.

Basiq questions

1. Do you describe yourself as an active or passive crowdfunding platform?
2. Who is the typical investor on your platform?

Company valuation

3. Who are responsible for the investment information on your website? The company raising equity or you as a platform?
4. How do you compute the company's pre-money valuation?
5. How do you decide how much money to raise in the campaign?
6. Which financial methods do you use for company valuation?
7. How do you incorporate future growth potential?
8. Which qualitative aspects of the company do you investigate? (Such as Team, Business idea etcetera.)
9. What kind of market research do you conduct?

Investors

10. How do you recommend that an investor proceeds to evaluate equity crowdfunding offers?

Appendix 2: Case study, DCF method: Pro Forma Income Statement

Pro forma income statement Barista								
	2015	**Mid 2016**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Number of Coffee Shops	19	16	13	9	12	16	21	27
Sales	**67691**	**30714**	**61428**	**45000**	**60000**	**80000**	**105000**	**135000**
EBITDA before Head Office				5897	8463	12084	16910	23092
Cost Head Office	-21000			-4800	-5040	-5292	-5557	-5834
Operating expenses tot	**-79772**	**-34568**	**-69136**	**43903**	**56577**	**73208**	**93646**	**117743**
EBITDA	**-12081**	**-3854**	**-7708**	**1097**	**3423**	**6792**	**11354**	**17257**
Depreciation	-6043	-2560	-5120	0	0	0	0	0
Capital gain/loss	-1524	2104	8854					
EBIT	**-19648**	**-4310**	**-3974**	**1097**	**3423**	**6792**	**11354**	**17257**
Interest expenses	-2803	-1088	-2176	-1088	-1261	-1491	-1779	-2125
EBT	**-22451**	**-5398**	**-6150**	**9**	**2162**	**5301**	**9575**	**15133**
Income tax	0	0	0	2	476	1166	2106	3329
Net Income	**-22451**	**-5398**	**-6150**	**7**	**1687**	**4135**	**7468**	**11803**

Table 13: The Pro forma income statement for Barista. Numbers in thousand SEK.

2016: 2016 is based on the balance sheet for January-June 2016 (Barista FTC AB, Board, 2016, p. 24) multiplied by 2. Capital gain/loss is an exception. For Capital gain/loss we use the figure for mid-2016 and add a payment of 6,75 million SEK for disposed units (Barista FTC AB, Board, 2016, p. 15).

Number of coffee shops: Barista has clear intentions to increase units. Barista state that they need 30 units to achieve a stability where they are able to finance their Head Office and grow with incremental cash flow. Barista further express their aim is to be number two on the Swedish Coffee market until 2025. (Barista FTC AB, Board, 2016, p. 7) We have forecasted an increase in units of 30% per year starting 2018.

Sales: Barista state that every unit should have a turnover of 5 million SEK per year (Barista FTC AB, Board, 2016, p. 13). This match a calculation of the average turnover for the 8 units they will keep after the turnaround phase (Barista FTC AB, Board, 2016, p. 24).

EBITDA before Head Office: EBITDA before Head Office means the average EBITDA for the units without overhead costs. Barista is in the progress of divesting unprofitable units. Barista state that a well-maintained unit should deliver over 20% EBITDA (Barista FTC AB, Board, 2016, p. 14). Barista will keep 9 units after the turnover (8 old units plus Korsgatan which was established 2016). We have computed EBITDA to 12,1 % for these 8 units for the first half of 2016 ((Barista FTC AB, Board, 2016, p. 14 and 24). We assess that Barista will improve their EBITDA with 1% per year during the forecast period starting from 2017.

Cost Head Office: Barista has lowered their cost for their head office (Barista FTC AB, Board, 2016, p. 22). We assess that the costs for Head Office will increase with 5% per year.

Depreciation: We do not need to estimate depreciation since that isn't needed for the free cash flow analysis.

Interest expenses: Barista state they should be able to half the debt cost (Barista FTC AB, Board, 2016, p. 24). Interest expenses divided by Long term debt for mid-2016 gives a lending rate of 11,52%. Half of that is 5,76%. The debt will increase with 1 million for every unit added (Barista FTC AB, Board, 2016, p. 7).

Income tax: Profit tax 22% (Tillväxtverket, 2016).

Appendix 3: Case study, DCF method: Net working capital forecast

Net working capital forecast Barista								
	2015	**Jan-Jun 2016**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
Working capital								
Assets								
Goods	1036	842	842	617	822	1097	1439	1850
Accounts receivable	5464	4774	4774	3497	4663	6217	8160	10492
Cash Bank	1997	-258	-258	2838	3784	5045	6622	8514
Total current assets	**8497**	**5358**	5358	6952	9270	12359	16222	20857
Liabilities								
Current liabilities	23852	19378	19378	10696	14261	19014	24957	32087
Total current liabilities	**23852**	**19378**	**19378**	**10696**	**14261**	**19014**	**24957**	**32087**
Net working capital								
Net working capital	**-15355**	-14020	-14020	-3743	-4991	-6655	-8735	-11230
Increase in net working capital			1335	10277	-1248	-1664	-2080	-2496

Table 14: The net working capital forecast for Barista. Numbers in thousand SEK.

Goods: We assess that the increase in Goods are proportional to the increase/decrease in sales.

Accounts receivable: We assess that the increase in Accounts receivable are proportional to the increase/decrease in sales.

Cash Bank: We assess that Barista will match the current ratio of the market leader Espresso House at 0,65. They will enable this by adjusting the Cash Bank Balance.

Current liabilities: Two convertible loans, with a value of 3,5 million SEK, are renegotiated to long term debt (Barista FTC AB, Board, 2016, p. 25)

Appendix 4: Case study, DCF method: Free cash flow forecast

Free cash flow forecast Barista						
	2016	2017	2018	2019	2020	2021
EBIT		1097	3423	6792	11354	17257
Less: Corporate tax 22%		-241	-753	-1494	-2498	-3797
Unlevered Net Income		**856**	**2670**	**5298**	**8856**	**13461**
Plus: Depriciation		0	0	0	0	0
Less: Capital expenditures		4000	3000	4000	5000	6000
Less: Increases in net working capital		10277	-1248	-1664	-2080	-2496
Free cash flow of firm		**-13421**	**918**	**2962**	**5936**	**9956**

Table 15: The Free cash flow forecast for Barista. Numbers in thousand SEK.

Capital expenditures: The capital expenditures refer to costs for the increase in units.