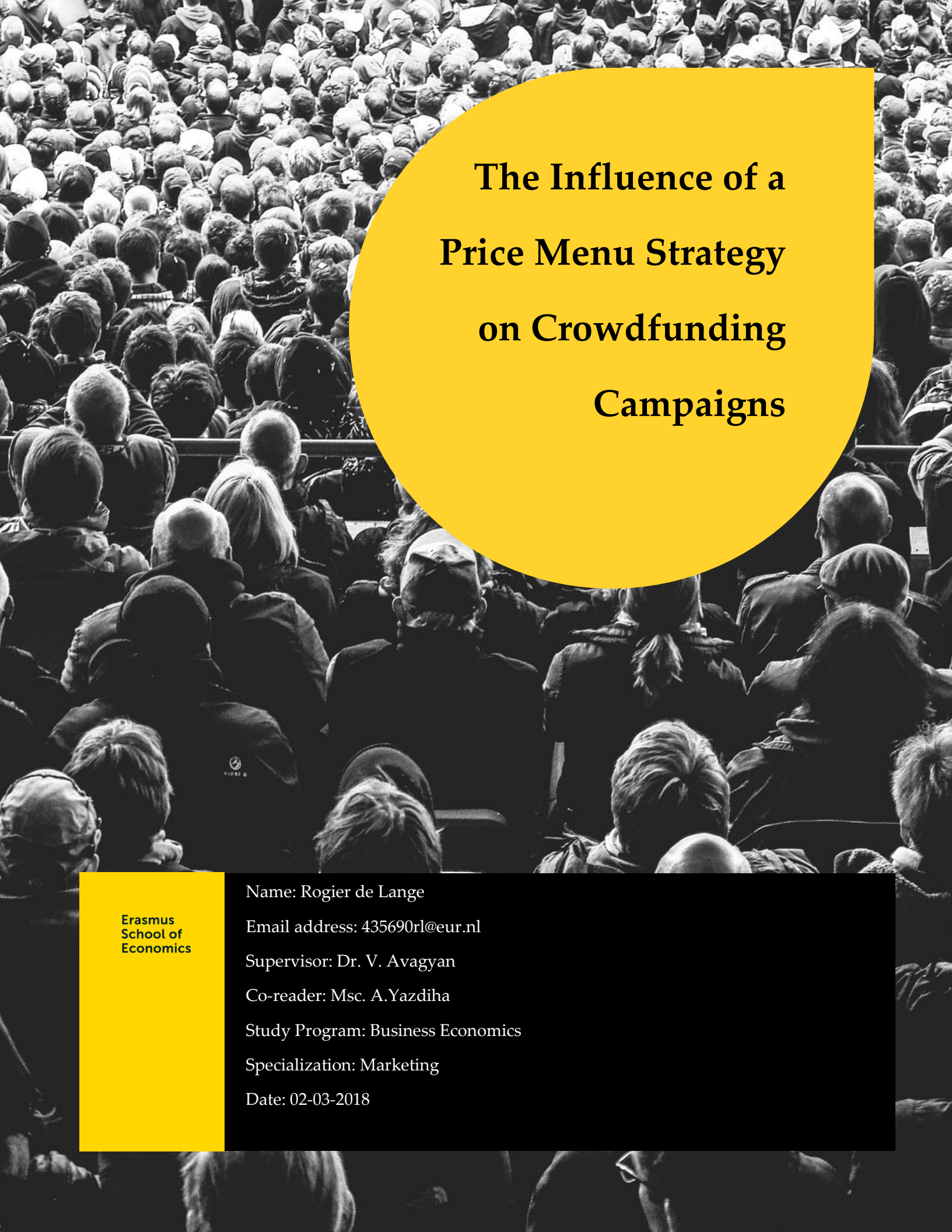

The Influence of a Price Menu Strategy on Crowdfunding Campaigns

Erasmus School of Economics

Name: Rogier de Lange

Email address: 435690rl@eur.nl

Supervisor: Dr. V. Avagyan

Co-reader: Msc. A.Yazdiha

Study Program: Business Economics

Specialization: Marketing

Date: 02-03-2018

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Abstract

In the last years crowdfunding has become a serious alternative for raising initial capital. Crowdfunding is a way to raise start capital for a company by asking the crowd for capital instead of the traditional monetary institutions. Crowdfunding platforms like Kickstarter and Indiegogo facilitate an online platform where the demand of funders and the offers fundraisers are brought together. The crowdfunding platform facilitates the fundraiser to present his project in the form of a price menu strategy. When a funder intends to fund a crowdfunding campaign, the fundraiser offers a menu of different prices and options to support the campaign. In this way the potential funder can choose the option and price that equals their valuation. This thesis researches which characteristics of the price menu strategy determines the success of a crowdfunding campaign. After analyzing 100 samples the following conclusion can be made. First, it is profitable for the fundraiser to set the estimated income of the limited price menu options higher than the funding goal. It will increase the overfunding and the time duration of reaching the pre-set funding goal. Second the fundraiser should increase the average discount when extending the amount of price menu options. This will also have a positive effect on the success of the crowdfunding campaign.

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1. Introduction

A central question in marketing is which information influences the decision of a consumer that tips the balance, for example which information makes the consumer decide to buy a product. A more specific question is, which information makes a consumer decide to fund a crowdfunding campaign?

In 1997 the British band Marillion needed capital to fund their upcoming tour in North-America. To raise funds for their tour, the band decided to approach their fans by selling their album in advance. The fans of Marillion bought 12.000 albums and the band raised $60.000 to fund their tour in North-America (Preston, 2014). This is one of the earliest examples of modern day crowdfunding (Gamble, et al., 2017). Ahlers, et al. (2015) provide a definition for crowdfunding; ''Crowdfunding is an umbrella term used to describe an increasingly widespread form of fundraising, typically via internet, whereby groups of people pool money, usually very small individual contributions, to support a particular goal''.

Crowdfunding as a source of financing has increased in popularity and therefore has also received more attention by academics, governments, and marketers. The fund volume of the total crowdfunding industry in 2012 was $2.2 billion, in 2015 this amount increased to $34 billion[1]. As more starting entrepreneurs enter the crowdfunding market it becomes more important for fundraisers of crowdfunding projects to signal the quality of their project in order to successfully fund their project. Through marketing, potential funders can receive information that helps them in their decision whether or not to fund the project. In this thesis I try to investigate which crowdfunding campaigns characteristics influence the success of a campaign. More specifically, I am

[1] crowdexpert.com (2016) Retrieved from Crowdexpert.com: http://crowdexpert.com/crowdfunding-industry-statistics/

interested in the influence of pricing strategies on the success of fundraising in a crowdfunding campaign.

I find that pricing strategies do matter for the success of crowdfunding campaigns. Exclusivity positively influences the level of overfunding and time duration of reaching the funding goal, but "more" exclusivity is better. That is, when more price menu options are limited, thus the total potential income of limited price menu options is higher, then projects are on average more overfunded and take less time to reach their funding goal. For fund raisers this implies that thinking about pricing strategies is important for the success.

The crowdfunding business model distinguishes from other business models by the price strategy. Instead of choosing one uniform price for the same quality product, big crowdfunding platforms such as Indigogo and Kickstarter provide the fundraiser the opportunity to offer a variation of prices for the same product. This price strategy is called menu pricing. The purpose of menu pricing is to trigger the funder to overpay. Following Ming & Mengze (2015) menu pricing is especially suitable for crowdfunding because of the common goal the funders want to reach. This is because of the all or nothing (AON) concept; Crowdfunding projects only succeed when the funding reaches a certain threshold that is set by the fundraiser. When the crowdfunding project does not reach the funding goal the project will not proceed and the contribution of the funder will be transferred back. However when the threshold of the crowdfunding project is reached, the crowdfunding project can continue raising funds within the pre-arranged funding period. Every fund that is raised after the funding goal is reached is known as overfunding. When a crowdfunding campaign has gained a lot of popularity among funders, it is possible for the fundraiser to collect a funding much bigger than the pre-set funding goal.

1.1 Problem statement

Crowdfunding platforms use many marketing tools to make a potential funder participate in the project. Menu pricing strategy is one of the marketing tools used by crowdfunding platforms. When a potential funder decides to invest in a certain crowdfunding campaign, the funder is offered a menu of different options to support. One option can be to only donate $1, but also, for example, an exclusive product pick-up and dinner with the campaign owner for the price of $10.000. However most price menu options involve the main product in different quantities or varieties as a reward for a certain price. The price you pay for the reward is depending on the different price menu options, some price menu options offer a greater discount than other price menu options. Price menu options can also be limited for a certain amount of funders. All the price menu options together form a pricing menu.

There is a lot of variation in the use of pricing menus between the different crowdfunding campaigns. From the existing literature we know that the characteristics of a pricing menu can influence the success of a crowdfunding campaign, but what is unclear is what these characteristics are. In this thesis I therefore try to answer the following question: "*Which characteristics of menu price strategies determine the success of a crowdfunding campaign?"*

In this thesis I describe the differences in menu-pricing between projects and test whether menu pricing influences the fundraising success of a crowdfunding campaign. Furthermore, I will make several recommendations on how to implement a successful menu pricing strategy.

1.2 Academic and managerial relevance

My thesis will contribute to existing literature that has been written about the subject crowdfunding. Different streams of research have been done on crowdfunding; social influence (Kuppuswamy, et al., 2015; Steigenberger 2017; Belleflamme, et al., 2015), collective attention effects (Kuppuswamy, et al., 2015; Mollick, 2013) and pricing strategies (Ming, Xi, & Mengze, 2015). My research contributes to this last stream. First, the outcome of the research will give new insights on

the choices potential funders make when contributing to a price menu based crowdfunding campaign. Second, Ming & Mengze (2015) elaborate on the menu pricing strategy being especially suitable for the crowdfunding business model. However, no specific research has been done on which characteristics of menu pricing strategies specifically have a positive influence on the funding cycle of a crowdfunding campaign. Third, this research could be used as a base and reference for further research on menu pricing strategies in crowdfunding, but also in other industries.

My thesis is relevant for managers in three ways. First, the outcome of the research could give relevant information and guidelines when setting up a menu pricing on a crowdfunding platform. Future fundraisers could use the outcome of this research while setting up a pricing menu for their crowdfunding campaign.

Second, the outcome of this research is also relevant for crowdfunding platforms like Kickstarter and Indiegogo. The crowdfunding platforms will get an additional insight in their own pricing mechanism. This will give the crowdfunding platforms the opportunity to inform future fundraisers about the effects menu price strategies have on the result of their crowdfunding campaign. Crowdfunding platforms like Indiegogo and Kickstarter offer a fundraisers manual for setting up a crowdfunding campaign. Crowdfunding platforms could add the outcome of this research to their manual for fundraisers. For instance Kickstarter.com offers the "Creator Handbook"[2]. The outcome of this research could add relevant information to the chapters ''Building rewards" and ''Funding". Besides the manuals of the crowdfunding platforms, also other non-academic literature is written about setting up a crowdfunding. For example The Kickstarter Handbook (Steinberg, 2012). The outcome of this research could provide additional information to writers of handbooks for crowdfunding platforms.

[2] *Kickstarter.com*. (2017). Retrieved fromKickstarter.comhttps://www.kickstarter.com/help/handbook/rewards?ref=handbook_index

Third, managers and entrepreneurs from non-crowdfunding businesses could use the outcome of the research as an example of how menu pricing works in a crowdfunding environment. This example can be used as a substantiation when implementing pricing menu strategies in non-crowdfunding markets.

1.3 Thesis structure

This thesis is structured as follow; the next chapter provides an overview of the relevant existing literature. Chapter 3 contains the theoretical framework and hypotheses development. The chapter ends with the conceptual model. Chapter 4 discusses the research methodology, by starting with the data collection and a description of the summary statistics. The sub chapter measurements will describe which data is used and to what extent, and how the results are extracted. Chapter 5 provides an interpretation of the research results. Chapter 6 will state the conclusion of this thesis. Limitations and implications will be discussed.

2. Literature Review

This literature review is divided in multiple streams. The first stream is on how pricing strategies influence decision making in crowdfunding. The second stream is on how altruism can be a motivation for funding a crowdfunding campaign, the last stream is on other characteristics that influence the decision making process of potential funders. The main subjects in the last stream are; motivation of funders (Kuppuswamy, et al., 2015; Steigenberger. 2017; Belleflamme, et al., 2015), collective attention effects (Kuppuswamy, et al., 2015; Mollick, 2013), and consumer behavior of funders (Steigenberger., 2017; Mittelstaedt et al., 1996). Before I review the three streams of literature I first give a quick insight on the crowdfunding business models.

2.1 Crowdfunding business models

Reward-based crowdfunding is the first of four types of business models in crowdfunding described by Belleflamme, et al. (2015). To get a better picture in which frame reward-based crowdfunding is operating the other three business models described in the paper of Belleflamme, et al., (2015) will be elaborated. Belleflamme, et al., (2015) did a literature research on all the current crowdfunding business models.

Second, there is the donation-based crowdfunding, this is a type of crowdfunding without a physical reward. The intention of a funder to support the fundraiser is philanthropic. The target of a donation-based fundraiser is often social or artistic (Belleflamme, et al., 2015).

Third, there is the lending-based business model. This type of crowdfunding is based on the traditional monetary funding by banks or other financial institutions. The funder receives an interest rate for lending money to a crowdfunding campaign. The difference with the traditional monetary funding is that the funder chooses the fundraiser and not the other way around (Belleflamme, et al., 2015).

At last there is the equity-based business model. In this model the funders receives stakes in return for their investment. It works in the same way as traditional early day funding. When the campaign is successful, the funder gets rewarded with dividend (Belleflamme, et al., 2015).

2.2 Existing literature on pricing strategies

When companies are selling a product an important factor is setting the right price. Kotler & Armstrong (2012) give the following definition of price; ''price is the amount of money charged for a product or a service''. If the price is set too low, profit will decrease because of low margins and when a price is set high the demand for the product will decrease with a decreasing profit as result. The price strategy is the decision of the company to set a particular price, based on the above considerations and other market conditions. Kotler & Armstrong (2012) give an overview of considerations that should be made when setting a price strategy (Figure 1).

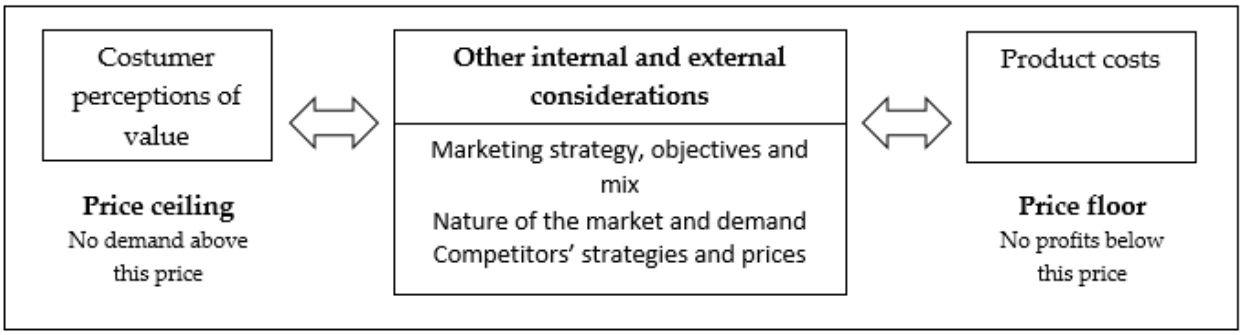

Figure 1 Considerations in Setting Price (Kotler & Armstrong, 2012).

Ming & Mengze (2015) provide insights on different pricing strategies that are used in crowdfunding. The paper finds that starting fundraisers who make product and price decisions based on the characteristics of the potential market, such that they create a "fit" with the market, have more success in collecting funds. This corresponds to the ''nature of the market and demand'' consideration in Figure 1 of Kotler & Armstrong (2012).

Ming, et al. (2015) further explain price strategies in crowdfunding by the means of a base model. This model is a two period game with two different types of funders who are considering to support a crowdfunding project. The project will only succeed when both funders participate. One type of funder is a low-type funder with a low product valuation and is not prepared to contribute more than needed. The other funder is a high-type funder, with a high product valuation. This funder is prepared to contribute more than needed. To target the two types of funders different price strategies are described. Ming, et al. (2015) differentiates three types of price strategies in crowdfunding.

The first price strategy is uniform pricing. In this strategy all product options are priced the same and every funder has an equal contribution to the crowdfunding campaign. The uniform price strategy can be applied to the base model of Ming, et al. (2015) in two ways, a margin strategy and a volume strategy.

When applying a margin strategy the fundraiser sets a high price margin to reach the funding goal. The problem in this case is that only the high-type funder will contribute to the campaign because the low-type funder is not prepared to contribute the high price. Therefore this strategy does not work for crowdfunding, since the low-type funder will not contribute (Ming, et al., 2015).. In high-end markets, the margin strategy is very common. For example in the automotive industry, where there is a demand for alternative transportation instead of public transportation. Assume that the only car brand in the world is Bentley and has no competition. Bentley only produces high-end cars with a high price and margin. So only the high-type buyers can afford to drive a Bentley as alternative transport. Bentley can only serve the high-end market and will miss out the profit of the low-type buyers.

The other uniform pricing strategy is the volume strategy. This is the opposite of a margin strategy. In this case the price is set low and the fundraiser wants to reach the funding goal by preselling a high volume product with a low margin. The base model of Ming, et al. (2015) implies that chances are high that the funding goal will be reached. Low-type funders and high-type

funders will contribute because of the low price in compared to the value of the product. A disadvantage of this strategy is that fundraisers cannot maximize their profit, because the high-type funders where prepared to invest more. (Ming, et al., 2015). When applying this to the example of the automotive industry, let us assume that Škoda is the only brand in the world and that it has no competition. Škoda produces low-end cars and still solves the need for alternative transportation. The need for alternative transportation exists of low- and high-type buyers. Chances are high that both type of buyers will buy a Škoda because of the low price and the need for the product. But Škoda misses out on profits, because the high-type buyer was prepared to pay more for alternative transportation.

The second pricing strategy is the temporal pricing strategy. In this strategy the fundraiser charges different prices in the different time periods. In the model of Ming, et al. (2015) the two type of funders arrive at different time periods. The funding goal will only be reached when the low-type buyer and high-type buyer arrive in the periods when the price matches their valuation of the product. Thus, this is when the low-type (high-type) buyer arrives when the prices are low (high) and the price matches their valuation. In all other circumstances the funding goal will not be reached (Ming, et al., 2015). Applied to the automotive industry we could think of a hypothetical car dealer that sells Bentley's when high-type buyers arrive and that this same car dealer sells Skoda's when low-type buyers arrive.[3]

The last price strategy is the menu pricing strategy. In this strategy the fundraiser sets up a menu with a low and high price for products with equal quality and characteristics. Following the base

[3] Looking at the development of the automotive industry of America in the 20th century. The car dealer should have sold Bentley's before the 1950's because alternative transportation in the form of automobiles was only available for the high-type buyers because cars where expensive and seen as great luxury. Due the improvement of car manufacturing cars became also available for the low-type buyers and demand for automobiles was rising. So ideally the car dealer switches from a Bentley dealer to an automobile brand that is more affordable for the low-type buyer like Škoda. In this way the car dealer can maximize the profit in both periods. In reality the time periods mend by (Ming, et al., 2015) are much shorter than a century, but the example show how a company can maximize profit by setting to different price strategies (margin and volume strategy) while serving the demand for alternative transportation.

model of Ming et al. (2015) the funding goal is reached when one funder chooses for the low price option and one funder chooses for the high price option. In a traditional market the funding will not be reached because both funders would choose for the low price option. However, they argue that in crowdfunding, both funders pursue a common goal, and that therefore the high-type funder will choose to pay the higher price. In practice, this is however rarely (never) the case. In practice, the different menus do differ in quality and characteristics. When applying the menu price strategy to the automotive industry, the fundraiser can be seen as the Volkswagen Group. The Volkswagen Group is the owner of Škoda, Seat, Volkswagen, Audi, Porsche, Bentley, Lamborghini and Bugatti. All the brands together offer a menu of low- and high-type price options. Depending of the valuation of the buyer and the existence of the many brands, the Volkswagen Group can also motivate (by marketing) the potential buyer to increase their contribution to the Volkswagen Group and buy an Audi instead of a Škoda. In this way the Volkswagen Group can serve the need for alternative transportation for all type of buyers. The Volkswagen Group now serves the total market and can maximize their profit.

2.3 Altruism in crowdfunding

Besides the need to reach a common goal there are several other reasons described in literature on why funders overpay. Steigenberger, (2017), describes that a potential reason for overpaying in crowdfunding could be altruism. Supporting with altruism is a common phenomenon when it comes to giving for charity. But altruism can also play a role when it comes to reward-based crowdfunding. Harbaugh (1998) introduces the term ''warm glow'' as a motivation for giving to charity. The ''warm glow'' is defined as; 'the first effect, a purely internal satisfaction that comes from the act of giving and, prestige to mean the utility that comes from having the amount of donation publicly known'' (Harbaugh, 1998). This ''warm glow'' effect might also arise when supporting a reward-based crowdfunding campaign.

2.4 Social in influences in crowdfunding campaigns

The successful funding process of a reward-based crowdfunding project depends on many factors, such as the motivation of a funder (Kuppuswamy, et al., 2015; Steigenberger., 2017; Belleflamme, et al., 2015), collective attention effects (Kuppuswamy, et al., 2015; Mollick, 2013), consuming behavior of funders (Steigenberger., 2017; Mittelstaedt et al., 1996).

The motivation of a funder in turn is influenced by the social factor. In their research Kuppuswamy et al. (2015), shows that 70% of the funders on Kickstarter only support one campaign and that 95% of these community joined the Kickstarter community and fund a project at the same day. They explain this finding by discussing which role family members, friends, and followers of the funder have in the funding of the process. Steinberger (2017) further shows that investing in a crowdfunding campaign is also a social happening. Supporting reward-based campaigns can give the funder a feeling of social prestige. Funders tend to share their investments in their social community. Investing in a crowdfunding campaign can also ask the funder to be involved in the campaign. Funders are not seen as regular investors or consumers. There is a need to be part of a funder community. Funders feel special when they are part of a crowdfunding campaign. This effect especially arises in reward-based crowdfunding (Belleflamme & Lambert, 2014). Belleflamme et al. (2015) also describes social interaction effects between funders which can influence the success of a crowdfunding campaign. The research explains how funders react to other funders while deciding to contribute to a crowdfunding campaign. Potential funders can be influenced by the so called ''within-group external effects''. In case of an all or nothing crowdfunding project funders can profit from other funders who supported the crowdfunding project in an earlier stage. If the crowdfunding campaign is substantial funded by other funders the more likely it is that the fundraisers goal will be reached. The amount of funders that support the campaign, can be seen as an indication for the success of a campaign.

Another within-group external effect between funders exists when there is a possibility for overfunding. This happens when there is no limit for the amount of funders. Funders can support the

campaign when the goal is already reached. In this way funders can contribute to a crowdfunding project without taking any risk. The opposite can also happen; Funders can experience competition on a crowdfunding platform. This effect arises when there is a limit for the amount of funders on a campaign. Funders are competing to be a part of popular campaign, with the treat of missing out (Belleflamme, et al., 2015).

2.5 Collective attention effects in crowdfunding campaigns

Besides social factors that influence the motivation of funders, Kuppuswamy et al. (2015) and Steinberger (2017) explain in their research that there are also other influences that can lead to a motivation for funding a crowdfunding campaign. The research of Kuppuswamy et al. (2015) describes the effects of collective attention.

The first collective attention effect is the way Kickstarter is categorized. When a potential funder explores the Kickstarter platform, campaigns are categorized. At the time the research of Kuppuswamy was written the categories where called; "recently launched and ''ending soon''. Currently the categories are called; ''Just Launched an ''nearly funded''[4]. So the campaign is most visible on the Kickstarter website when the campaign just started end when it is about to end. Because of the higher visibility the campaign receives more collective attention from potential funders at the beginning and end stage of the campaign (Kuppuswamy, et al., 2015).

The research of Kuppuswamy et al. (2015) describes a second collective attention effect. The research emphasizes project updates as a factor that can influence the success of a crowdfunding project. During de funding period of a campaign Fundraisers can communicate with potential funders by sending updates about the recent status of the campaign. These updates increase the visibility of a campaign. The research find that the amount of updates is positively related to the funding support. So sending potential funders an update about the status of the campaign can be

[4] *Kickstarter.com*. (2017). Retrieved from Kickstarter.com https://www.kickstarter.com/?ref=nav

factor for succeeding the funding goal. Most of these updates are occurring at the early and latest stage of the campaign. (Kuppuswamy, et al., 2015).

2.6 Consumption behavior in crowdfunding

Following Steinberger (2017) motivation of funders can also be based on consumption behavior. This motivation is based on the fact that funders contributes to the expected utility of the reward. The rewards in crowdfunding campaigns are mostly the intended product that the fundraiser wants to produce after de crowdfunding campaign. This is supported by the fact that fundraisers often give a discount on the future retail price of the product. In some crowdfunding campaigns the fundraiser also gives the funder the possibility to influence the production process of the intended product. In this way the funder can end up with for instance a customized product. This can also contribute to a higher expected utility of the funder. The behavioral economics research of Mittelstaedt et al (1996) describes that consumers have exploration buying behavior tendencies. Consumers are seeking for variety and motivated by curiosity.

3. Theoretical Framework and Hypotheses Development

3.1 Key hypotheses

The paper of Ming & Mengze (2015) find that a menu price strategy fits with the crowdfunding business model, however no specific details were given about the characteristics of the price menu. For fundraisers and crowdfunding platforms it would be relevant to know which characteristics of the price menu they should consider while setting up a price menu for a crowdfunding campaign. Even more relevant would be to know which characteristics of a price menu have a positive effect on the success of the crowdfunding campaign.

For explanatory purposes let us take the perspective of a hypothetical potential funder. After reviewing several crowdfunding campaigns the potential funder has found two projects of similar characteristics (characteristics has been defined as the number of updates, type of funders, whether it is a staff pick) and both projects have a product with a retail price of 150 dollars. The first crowdfunding campaign has four menu pricing options (80, 100, 150, and 200), the second crowdfunding campaign only has one price menu option (150). The potential funder tries to find a price menu option that best fits his valuation. He finds that the first project better suits him. But why is this the case?

The first reason could be the willingness to pay of the potential funder. For example, when the valuation of the project by the funder is equal to 80 dollars, which is the maximum he is willing to pay, the funder will not be prepared to fund the second project. The number of price menu options of the first project can therefore attract funders with different valuations and increases the probability of success of the project. It could be, for example, that this specific funder is a low-type buyer, and that the other, limited, menu option therefore does not possess any options of interests.

Second, Ming & Mengze (2015) argue that multiple price menu options can trigger the funder to choose for a higher price option. This is because of the all or nothing concept in crowdfunding.

The project will only succeed when the crowdfunding campaign reaches the pre-set funding goal. This invites the funder to pay for a higher price option to reach the common goal.

To enforce this statement, I argue the following theory; besides paying a higher amount to reach a common goal, there is also another characteristic of a pricing menu that drives the funder to pay a higher amount. Because a price menu offers different options with different prices, funders can compare these prices. For example; a crowdfunding campaign that offers only the 80, 100, 150 dollar price menu options. If you compare the prices 80 dollar is the cheapest one, 100 dollar is the more expensive option and 150 is the most expensive option. Now the fundraiser adds 200 dollar option to the price menu. The potential funder will know evaluate the options differently. The 150 dollar option is now the second expensive option and compared to the 200 dollar option, the 100 dollar option looks relatively less expensive (Huber & Puto, 1983). This theory is extensively described in the fields of psychology, behavioral economics and marketing, often referred to as 'anchoring' (Tversky & Kahneman, 1974; Ariely et al., 2003; Bergman et al., 2010).

The last reason the potential funder is prepared to invest a higher amount than the initial willingness top pay can be the ''warm glow effect'' (Harbaugh, 1998). The ''warm glow effect'' represents the theory that the potential funder is willing to pay extra because the funder appreciates the initiative of the fundraiser or the funder wants to give an extra push to the fundraiser to reach the threshold of the pre-set funding goal. The funder awards the fundraiser with an extra amount of money. In the case of the example the funder could purchase 150 dollar option instead of 100 dollar option. The extra 50 dollar the funder donates extra without getting a tangible reward in return (just like giving to charity) can generate the ''warm glow effect''. The extra support of 50 dollar the potential funder is giving to the fundraiser could give the potential funder a ''warm glow effect''. Giving the funder the ability to choose for a higher option than his willingness to pay (like in the first crowdfunding campaign) could therefore have a positive influence on the success of a crowdfunding campaign. Combining above mentioned theories, I expect that:

Hypothesis 1: The number of price menu options is positively related to the success of a crowdfunding campaign.

The reason why the funder chooses for the first crowdfunding campaign could also be related to the discount offered by the fundraiser. Project 1 has two price menu options that both offer a discount on the future retail price, while project 2 has no price menu options with discount on the future retail price. Because crowdfunding raises capital to produce the product, the time period between buying and consuming the product by the funder can be for example a few months. So why should the funder invest his money now, when he can purchase the product for the same price when the crowdfunding project is succeeded and the product is directly available?

Nocke & Peitz (2008) argue that in industries where there is a time gap between buying a product and consuming a product, consumers with a high product valuation (like funders) are prepared to experience the uncertainty of the expected valuation of the product in return for a discount. Consumers with a low product valuation will wait for the moment where they can immediate compare the product with their valuation. Because crowdfunding is a business with a time gap between purchasing and consuming, it is reasonable to assume that the funder is likely to choose for option one as he is compensated for the uncertainty that the product equals his expectation. Therefore I expect that:

Hypothesis 2: Discounts on price menu options have a positive effect on the success of a crowdfunding campaign.

Because each crowdfunding campaign has multiple price menu options with different types of discounts it should be likely that there could exist an interaction effect between the price menu options and discounts. When applying the same theory of comparing prices of multiple price menu options (Huber & Puto, 1983), I argue that discount on different price menu options can enforce the effect that arises when comparing prices of the different price menu options. A high discount on a price menu option can make a price menu option with a low discount less attractive.

The presence of multiple price menu options makes this comparison possible. For example a 50 percent discount on the price menu option of 150 dollar seems an attractive option. When adding a price menu option of 200 dollar with a discount of 20 percent, makes the option of 150 dollar even more attractive. There are different theories in the literature that touch upon this subject. For example, Hsee and Leclerc (1998) state that people will often evaluate items differently when the items are evaluated independently, as opposed to when they are evaluated at the same time. This theory is applicable to our case to the extent that it could indeed be that the different pricing menus, with discounts included, affect the success of the crowdfunding campaign when the options are combined. Therefore I expect that the number of pricing menu options and discounts are likely to reinforce each other, so:

Hypothesis 3: The effect of the number of price menu options on the success of a crowdfunding campaign is stronger when the price menu options include a discount on the retail price than when they do not include a discount.

Another reason a funder chooses for a certain price menu option could be because of scarcity messages. A price menu option of for example 100 dollar could be limited to 50 funders. The availability of the price menu option is mostly shown in the option itself. (Appendix 3, number 5). This effect also creates competition among funders. When there are more funders interested in the same price menu option they feel the threat of missing out on this maybe unique price offer (Belleflamme, et al., 2015). The scarcity message influences the potential funder to make quicker and maybe more impulsive decisions. This theory has also been shown by previous research in other areas than crowdfunding. In marketing ''scarcity messages'' are a common tool to put pressure on the decision making process of the consumer and is also known as ''quantity-restricted sales promotion" (Aggarwal, et al., 2011).[5] Because limitations on price menu options creates

[5] An illustrative example is the online retailer Coolblue. Appendix 1 shows a product page of Coolblue. The stock availability is shown on the page to give the potential buyer an incentive.

competition among funders and scarcity messages are shown in the price menu option, I expect that:

Hypothesis 4: Limited price menu options has a positive effect on the success of a crowdfunding campaign.

3.2 Control variables

Previous literature has shown (Kuppuswamy, et al., 2015; Steigenberger 2017; Belleflamme, et al., 2015) that social influence has a positive effect on the success of crowdfunding campaign. Their research show the positive effect of family, friends and funders and the success of a crowdfunding campaign. Therefore I control for the social influence by measuring the number of new funders, which is a proxy for the family members and friends.

Kuppuswamy et al. (2015) and Mollick (2013) show that the collective attention effects of the campaign can have a positive effect on the success of a crowdfunding campaign. For example, Kuppuswamy et al. (2015) shows that project updates matters. Therefore I will control for collective attention effects by measuring the amount of project updates. The amount of updates is used as a proxy for collective attention effects.

3.3 Conceptual model

The conceptual model shows the expected relationships between the characteristics of a price menu and the success of funding. The relationship of the characteristics of the price menu options will be controlled for other variables who are described in the literature review and could also have an influence on the success of a crowdfunding campaign. The model also shows which hypothesis are made on the different relationships.

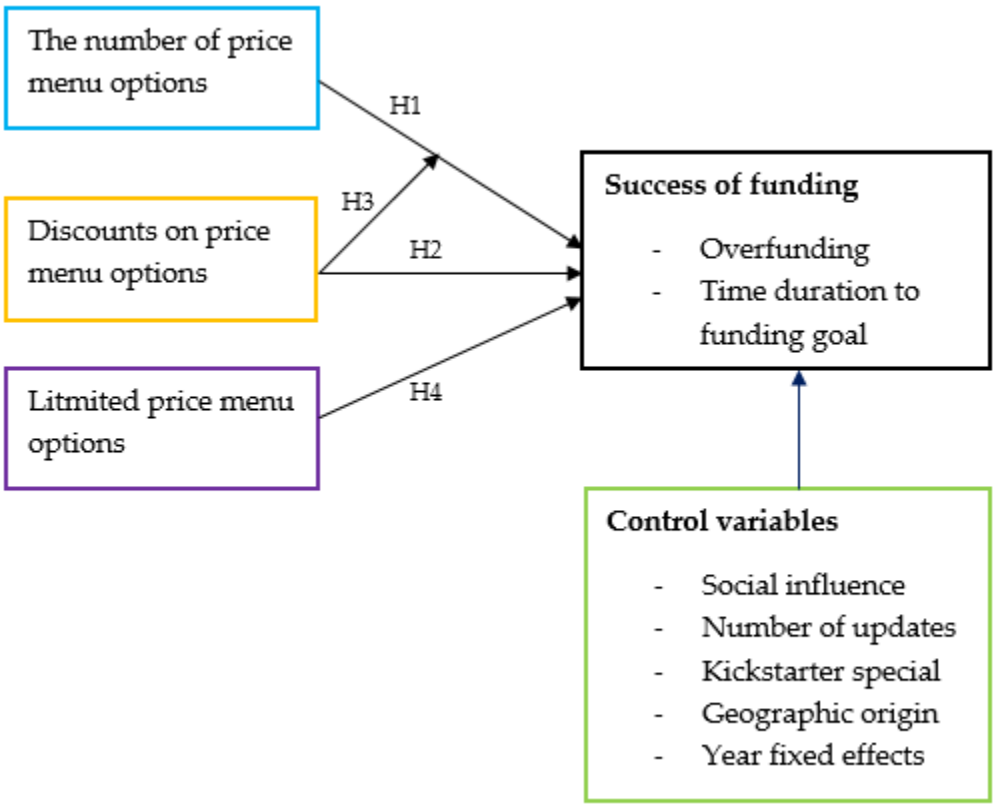

Figure 2: Conceptual model of success drivers on the success of a crowdfunding campaign.

3.4 Variables

The concept model visualizes the way three different characteristics of the price-menu and one potential moderating effect on success of funding are tested. Where by success of funding is divided in the time duration to reach the funding goal and the amount of overfunding. No previous literature has looked at the effects of the characteristics of the price menu strategies on the success of the funding campaign. Closest to this research is the work of Ming et al., (2015) who looked at the influence of the different pricing strategies, but also have not looked into the characteristics of the menu price strategy. The potential relationship of the price menu is and the success of funding is divided by three different factors. The effect of the number of price menu options, discounts on price menu options and the amount of limited price menu options on success of funding.

The effect of the main variables will also be controlled for other potential effects on the success of funding who are the described by previous literature. Social influence (Kuppuswamy, et al., 2015; Steigenberger 2017; Belleflamme, et al., 2015), number of updates, Kickstarter Staff Pick (Kuppuswamy et al., 2015: and Mollick 2013). Furthermore the main variables will also be controlled for Geographic origin and year fixed effects

An overview of the main and the control variables are shown in Table 1, appendix 2.

4. Research Methodology

4.1 An introduction to Kickstarter

The data for this research was manually gathered from the crowdfunding platform Kickstarter.com. Kickstarter is one of the biggest worldwide crowdfunding platforms. The mission of Kickstarter is to bring creative projects to life[6]. The platform was found in 2009 by; Charles Adler, Perry Chen and Yancey Strickler. Since 2009 137.854 projects has been successfully funded and a total of $3.5 billion was raised by Kickstarter campaigns[7]. Kickstarter uses a reward based crowdfunding business model with a focus on creative projects. Project categories like music, publishing, Art, Design and technology have a large share on the platform[8].

4.2 Data collection

Data is manually collected for the period between 12-2012 and 5-2017 for crowdfunding campaigns that fall within the technology category. Although in recent years more crowdfunding platforms have entered the market, Kickstarter remains the largest platform and is accessible to potential investors and project owners around the world. This database therefore provides a more comprehensive overview of the population of crowdfunding campaigns and reduces selection bias. The international aspect of Kickstarter however also complicates matters since social influences and collective attention might have different effects depending on culture. In this thesis I include location fixed effects in order to control for constant differences in culture.

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[6] *Kickstarter.com*. (2017). Retrieved from Kickstarter.com https://www.kickstarter.com/about?ref=about_subnav

[7] *Kickstarter.com*. (2017). Retrieved from Kickstarter.com https://www.kickstarter.com/press?ref=hello

[8] *Kickstarter.com*. (2017). Retrieved from Kickstarter.com https://www.kickstarter.com/help/stats?ref=press

Data on both current and historical crowdfunding campaigns is publicly available on Kickstarter. This allows me to collect data on crowdfunding campaigns that already started at the end of 2012. The main disadvantage of using Kickstarter as a data source is that unsuccessful crowdfunding campaigns are not visible. This automatically leads to a selection bias such that only successful crowdfunding campaigns are included. Only crowdfunding campaigns that are currently still active and that are not yet successful can be viewed, but since the maximum crowdfunding duration is limited to 60 days these crowdfunding campaigns are not included in my sample.

The data is manually gathered from each individual homepage of a crowdfunding campaign. On this page data on the funding goal, total funding raised, total funders, price menu options and discount (pricing menu) can be found. Further, information on the start - and end date (funding cycle) is collected from the "updates tab", which provides an overview of the (historical) developments of the campaign. The distribution of new and repeated funds is collected from the "heading community". For a detailed overview of the search procedure see Appendix 6. In total the data on 100 crowdfunding campaigns is collected, which are located in 12 different countries.

Panel A: By Year

Year	Number of Projects	Percentage of Projects
2012	1	1%
2013	5	5%
2014	33	33%
2015	37	37%
2016	19	19%
2017	5	5%
Total	100	2.050697674

Table 1.1 Summary statistics of the crowdfunding campaigns based on their year of incorporation.

Panel B: By Subcategory

Industry	Number of Projects	Percentage of Projects
3D printing	2	2%
Camera Equipment	3	3%
DIY Electronics	2	2%
Fabrication Tools	2	2%
Flight	3	3%
Gadgets	12	12%
Hardware	30	30%
Robots	5	5%
Sound	11	11%
Technology	17	17%
Wearables	13	13%
Total	100	100%

Table 1.2 summary statistics of the crowdfunding campaigns based on their subcategory.

Panel C: By Country

Country	Number of Projects	Percentage of Projects
Australia	2	2%
Canada	1	1%
France	1	1%
Ireland	1	1%
Israel	1	1%
Japan	1	1%
Kenya	1	1%
Poland	1	1%
Singapore	1	1%
Sweden	1	1%
United Kingdom	3	3%
United States	86	86%
Total	100	1

Table 1.3 summary statistics of the crowdfunding campaigns based on their country of origin.

Table 1.1. Present summary statistics of the crowdfunding campaigns based on their year of in-corporation, subcategories (Table 1.2) and origin of location (Table 1.3). Especially 2014 and 2015 have a relatively strong contribution to the sample in terms of campaign count. Almost 75% comes from these two years, while including 2016 almost 90% comes from 3 years. Most products

fall under "hardware", while there are relatively few crowdfunding campaigns related to "3D printing" and "Camera Equipment", which might suggest that more technical or complicated crowdfunding campaigns are either less successful, thus not on Kickstarter, or less popular among project owners (on and off Kickstarter).

In table 1.3, the campaigns are split by country. Noticeable is the large share of the United States (US), which covers 86% of my sample. This supports the idea that the crowdfunding market in the US is more evolved than in other countries. It could however also suggest that the US is more innovative in terms of technological developments. At least the division by countries might indicate that it is important to control for the location of the crowdfunding campaign.

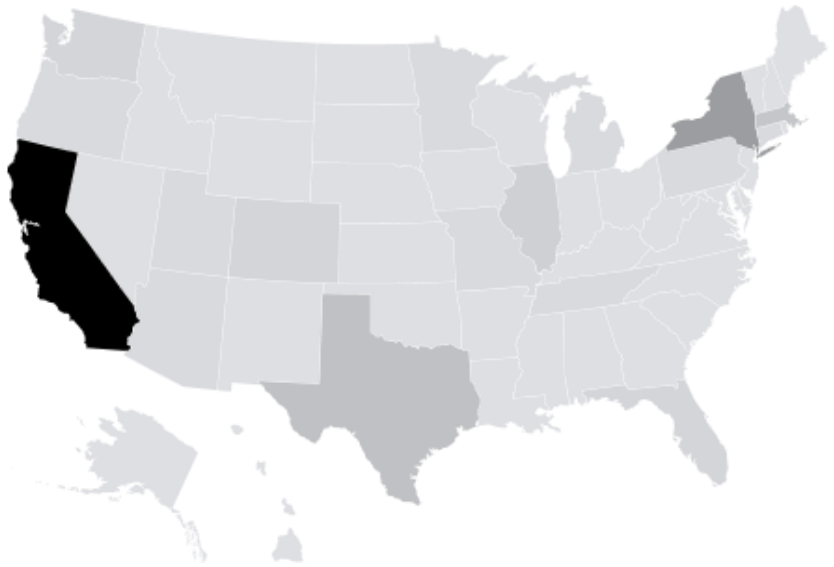

Figure 3 Heat map crowdfunding campaigns distributed on state level

In Figure 3 the crowdfunding campaigns are displayed on state level for the US. When having a closer look at the crowdfunding campaigns from the US it is clearly visible that most crowdfunding campaigns are situated in California. This seems to be primarily driven by San Francisco (Silicon Valley), from which 22 crowdfunding campaigns originate.

4.3 Internal and External validity

The selection of only successful crowdfunding campaigns potentially leads to a strong bias in my coefficients. The external validity of the thesis is limited by this selection. The results in this thesis are therefore only valid for successful projects, and show which characteristics influence the time duration to success and the amount of overfunding, but not the probability of success.

Nevertheless, I do use an overfunding variable as dependent variable, which could provide suggestive evidence of the probability of success, where more overfunded crowdfunding campaigns had a higher probability of success compared to just fund crowdfunding campaigns.

Two other selection factors that could influence the results are the time period and the selection of crowdfunding campaigns that fall under the technology category. For this thesis the selection of time period and product category is important. Due to the recent increase of campaigns financed by crowdfunding, competition for financing might have increase (assuming that the investments by funders has increased less, thus demand for financing has increased more than supply). Given this assumption, it seems likely that marketing has become more important for crowdfunding campaigns in recent years and more important between 2012 and 2017 compared to the first years after the incorporation of Kickstarter. Furthermore the technology category is one of the more popular markets among fundraisers and funders. The availability of numerous projects under this category might make it difficult for funders to select a crowdfunding campaign given that funders have limited time and resources to investigate the quality of a project. Therefore, exactly in this category funders might be more reliant on quality signals.

While these two selection criteria do limit external validity somewhat, I still believe that the results are valid for other samples, although the effect might be less or more strong in these other samples, since competition and quality signals are less or more important.

The randomization on Kickstarter of successful (and current) crowdfunding campaigns does provide a more experimental setting compared to when for example the most popular crowdfunding

campaigns always show up the most on Kickstarter. However, the sample is not completely random. Furthermore I only have information ex-post and not on information from during the funding cycle. I can therefore only see whether and how fast the fund succeeded, but not which price menu options filled up first, or whether the fund cycle showed a U-shape. Therefore it is difficult to establish the actual determinants of the success.

However considering these limitations, I still believe that the research in this thesis is important and relevant. While I do not have any data on failed projects, within the sample of successful project I can see which factors influenced the success of the funding strategy by comparing differences between successful projects and their level of success. The findings in this thesis could direct future researchers to important determinants of the success of crowdfunding campaigns, and these researchers could collect data on active projects.

4.4 Measurement

The goal of a crowdfunding campaign is to be successful. The successfulness of a crowdfunding campaign can be measured in two ways. The first measurement is the time duration of the funding cycle. A small time period between the start of the project and the achieving of the funding goal can be indicated as factor for success. This is a success factor because it is an indication of campaign quality. The campaign gained a lot of trust from potential funders in a short time. The time duration of reaching the funding goal is also an indicator for overfunding. When a crowdfunding project is successfully funded in an early stage the chances increases for overfunding (Belleflamme et al. 2015). When a crowdfunding project is successfully funded in an early stage the chances increases for overfunding. The duration of funding will be measured by the ratio of days wherein the funding goal is reached and the total days of the crowdfunding campaign.

The second measurement for the successfulness of a campaign is the amount of overfunding reached at the end of the campaign period. The reason that overfunding is an indication for success is simple; the more fund the campaign collects the more demand there is for the product of

your campaign. It also an indicator for future sales after the crowdfunding period. Overfunding is measured as a ratio between the amount of overfunding and funding goal.

The most important independent variable for this research is the pricing menu. To measure this effect this research will divide the menu pricing tool in different variables to see which characteristics of the menu pricing contribute to the success of the crowdfunding campaign. Therefore multiple variables are measured.

At first the amount of price menu options; On Kickstarter there are a lot a differences between the amount of price menu options used by fundraisers. In the collected data the lowest amount of price menu options is four and the highest twenty eight. It would be interesting to see if there is a relation between this characteristic and the successfulness of a campaign.

Another variable that could influence the success of a campaign is the variety between the price menu options. Fundraisers give many different interpretations to the price menu options. Therefore substantive variables of price menu options are collected. These are per pricing-menu; average price, average discount (relative to suggested future retail price), lowest price, highest price. Except average discount these variables are measured in absolute numbers.

The last variable related to the pricing menu is limited seating. The different price menu options can offer a limited to the amount of contributions. For example a price menu option with a great discount can be limited to twenty contributions. The funder who missed out on this price menu option is forced to choose another price menu option with probably less fortunate price conditions. This effect creates competition among funders (Belleflamme et al. 2015). Therefore the variable limited funding is created. The variable represents total share of the fund that can be reached because of the limited pricing menu options. The variable can be bigger than one because some projects have more limited places then they need to reach their funding goal. Because not all the price menu options are limited. I added dummy variable limited seating. This variable shows if the pricing menu option is limited or not and if the total that can be collected from limited seating is lower than the fund goal. A project where the total income of limited price menu options is set

lower than the funding goal is noted as one and a project where the total income of limited price menu options is set higher than the funding goal is noted as zero.

The social influence of friends and family could also effect on the success of a crowdfunding campaign (Argawal, et al., 2015; Kuppuswamy, et al., 2015). Although it is hard to exactly measure the contribution of friends and family, it can be approximated by several proxies. One commonly used proxy is the share of investors that are friends or family relative to external investors. To measure this proxy the share of first time Funders, which are assumed to be family members of friends, relative to repeated funders, which they assume to be external investors. The only disadvantage of this proxy is that especially for fundraisers that have started several crowdfunding campaigns, this measure might be noisy.

The variable updates is measured in the absolute numbers. Because of this positive outcome and the quality indication I will in include the amount of updates per project as a control variable (Kuppuswamy, et al., 2015). Another variable that is measured for the same reasons is the variable ''Kickstarter staff Pick''. Kickstarter Staff Pick (since February 2016 it is called ''Projects We Love'') is a label given to projects which stand out following the employees of Kickstarter[9]. The most important characteristic of the Staff Pick label is that the label also provides collective attention effects. When potential funders are searching for a Kickstarter project there is a possibility to filter for Kickstarter Staff pick projects only. The Staff Pick label is also visible when the potential funder randomly searches for Kickstarter campaigns. Because of the trust that is given to the project from the Kickstarter employees, the label can also been seen as a quality signal. The variable

[9]Kickstarter.com. (2017). Retrieved from Kickstarter.com: https://www.kickstarter.com/help/stats?ref=about_subnav https://www.kickstarter.com/blog/introducing-projects-we-love-badges

Kickstarter Staff Pick is dummy indicator. Taking on the number one when the campaign is a Kickstarter Staff Pick and taking on the number zero when it is otherwise.

The last variable I added is geography. When creating an overview of the data I recognized that 22 of the 100 samples have their origin in San Francisco and 86 of the 100 samples is based is the United States. I want to make sure that my results are not driven by projects from San Francisco and the United States. Therefore I included a dummy variable taking San Francisco as the number one and the number zero as otherwise. I also included a dummy with the United States as the number one and the number zero as otherwise.

4.5 Summary statistics

In Table 1.4 the summary statistics of the variables are provided. The average funding goal is higher than $100.000, but this goal can vary from $10.000 to even project goals of &1.000.000. In all project more funding is obtained than targeted and on average projects collect more than six times the funding goal. Several projects (22 in total) are funded in one day. On average projects need only 30% of their estimated time to reach their funding goal. Regarding the menu pricing variables, the table indicates that the discount lies around 20% of the retail price on average and that the average number of price menu options is equal to 11. Four projects do not use limited seating at all (all price menu options of these projects are without limits), 30% of the projects does use limited seating, for example; the funds that can be collected through limited pricing menu options is higher than the fund goal for 30% of the projects.

Variables	Observations	Mean	Std. Dev.	Median	Min	Max
Funding Goal	100	105,538	129,616	75,000	10,000	1,000,000
Overfunding	100	6.65	7.92	3.04	1.02	32.70
Duration	100	0.32	0.33	0.16	0.02	1.00
Social Influence	100	0.27	0.12	0.26	0.00	0.74
Updates	100	28	14	26	5	92
Staffpick	100	0.29	0.46	0.00	0.00	1.00
Average Discount	100	0.19	0.14	0.16	0.00	0.62
Price Menu Options (#)	100	11	4	10	4	28
Limited Seating	100	0.33	0.47	0.00	0.00	1.00
Limited Funding	100	324,762	426,196	121,154	0	2,130,034

Table 1.4 Summary statistics of variables.

In Table 1.5 the averages of the variables are provided by year. Between 2013 and 2016 it seems that the funding goals have increased, so the table suggests that the crowdfunding projects have increased in size on average. Simultaneously, the level of overfunding has also increased and the duration (time to fund goal) has somewhat decreased. Thus the projects seems to have become more efficient in collecting funding. However, this could also suggest that the inflow of funding on Kickstarter has increased, since crowdfunding has attracted a greater audience, increasing the amount of backers or the average contribution by Funders. In the Table 1.6 in appendix 7, the average number of funders and average contribution has been provided. From the table is it not clear whether crowdfunding has become more popular.

It is not entirely clear whether pricing menus have changed with time. The average discount remains below the 20%, while the average number of price menu options lies around ten. Only in the last two years limited seating and funding have clearly decreased and increased respectively. For limited seating this also is true when taking into account the increase in the funding goals.

Year	Funding Goal	Over-funding	Duration	Social Influence	Updates	Staffpick	Average Discount	Price Cat. (#)	Limited Seating	Limited Funding	N
2012	120,000	1.41	0.49	0.36	33	0.00	0.37	16	0.00	162,728	1
2013	87,800	4.99	0.39	0.30	32	0.20	0.16	12	0.40	249,747	5
2014	93,542	5.24	0.44	0.29	28	0.36	0.19	10	0.36	242,453	33
2015	100,385	7.00	0.24	0.26	32	0.41	0.18	11	0.41	256,719	37
2016	149,664	8.67	0.27	0.25	23	0.00	0.20	10	0.21	583,017	19
2017	70,000	8.46	0.20	0.28	10	0.20	0.15	10	0.00	497,565	5

Table 1.5 Average of the variables divided by year.

5. Results

Table 2.1 the effect from different individual variables on the dependent variable overfunding.

	(1) Overfunding	(2) Overfunding	(3) Overfunding	(4) Overfunding	(5) Overfunding	(6) Overfunding	Test
Independent Variables							
Price Menu Options(#)	0.309						H1
	(0.98)						
Average Discount (%)		2.783					H2
		(0.40)					
Limited Seating (Dummy)			-5.052***				H4
			(-3.58)				
Control variables							
Social Influence				8.262			
				(1.18)			
Updates (ln)					3.663**		
					(2.12)		
Staffpick						-0.987	
						(-0.59)	
US (Dummy)	1.354	1.896	2.447	2.198	1.266	2.014	
	(0.71)	(1.06)	(1.38)	(1.21)	(0.73)	(1.12)	
San Francisco (Dummy)	1.002	1.224	-0.209	0.758	0.730	1.096	
	(0.47)	(0.57)	(-0.10)	(0.37)	(0.33)	(0.51)	
Observations	100	100	100	100	100	100	
Year FE	YES	YES	YES	YES	YES	YES	
R-squared	0.066	0.047	0.126	0.058	0.089	0.048	
F-test	0.869	0.812	4.680	1.069	2.362	0.777	

** Significant at 5% level
*** Significant at 1% level

Table 2.1 presents the effect from different individual variables on the dependent variable overfunding including the fixed effects of the US end San Francisco dummy. T-statistics are provided between the brackets and calculated with the robust standard errors. Specification two shows that the individual effect of the variable updates on overfunding is significantly different from zero and has a positive effect. Furthermore specification six shows that dummy variable

limited seating has significant negative effect on overfunding. The tables does not provide any evidence that social influence is an important factor.

Table 2.2 the effect from different individual variables on the dependent variable duration

	(1) Duration	(2) Duration	(3) Duration	(4) Duration	(5) Duration	(6) Duration	Test
Independent Variables							
Price Menu Options(#)	0.006						H1
	(0.71)						
Average Discount (%)		-0.087					H2
		(-0.34)					
Limited Seating (Dummy)			0.319***				H4
			(4.30)				
Control Variables							
Social Influence				0.008			
				(0.02)			
Updates (ln)					-0.201***		
					(-3.03)		
Staffpick						-0.079	
						(-1.03)	
US (Dummy)	-0.049	-0.033	-0.064	-0.036	0.004	-0.035	
	(-0.40)	(-0.27)	(-0.55)	(-0.29)	(0.04)	(-0.29)	
San Francisco (Dummy)	-0.135*	-0.133*	-0.044	-0.131*	-0.106	-0.138**	
	(-1.98)	(-1.97)	(-0.80)	(-1.89)	(-1.64)	(-2.08)	
Observations	100	100	100	100	100	100	
Year FE	YES	YES	YES	YES	YES	YES	
R-squared	0.117	0.113	0.296	0.112	0.188	0.123	
F-test	1.603	1.514	7.586	1.514	3.907	2.074	

* Significant at 10% level
** Significant at 5% level
*** Significant at 1% level

In Table 2.2 I run the same specifications but then with duration as the dependent variable. The shorter the duration (time to get funding) the more successful the project has been. With that in mind, results are similar, since the same coefficients are significant but now have the opposite sign. Only Staff Pick has become significant, suggesting that Staff Pick does have an influence on the duration but perhaps not on the total amount of overfunding.

Table 2.3 specifications including all factors. (In specifications 1-3 the dependent variable is over-funding, while in specifications 4-6 the dependent is duration).

	(1) Overfunding	(2) Overfunding	(3) Overfunding	(4) Duration	(5) Duration	(6) Duration	Test
Independent Variables							
Price Menu Options(#)	0.236	0.135	-0.385	0.013*	0.018***	0.022*	H1
	(0.75)	(0.54)	(-0.77)	(1.96)	(2.95)	(1.73)	
Average Discount (%)	0.312	1.353	-1.153	-0.179	-0.123	-0.159	H2
	(0.05)	(0.25)	(-0.23)	(-0.80)	(-0.57)	(-0.69)	
Av. Discount * Price Cat.			2.329			-0.032	H3
			(1.56)			(-1.02)	
Limited Seating (Dummy)	-4.526***		-4.006***	0.311***		0.304***	H4
	(-3.05)		(-2.75)	(4.49)		(4.32)	
Limited Funding (Size)		2.992***			-0.119***		H4
		(4.71)			(-5.31)		
Control variables							
Social Influence	2.837	0.109	2.617	0.391	0.390*	0.394	
	(0.37)	(0.02)	(0.33)	(1.65)	(1.97)	(1.64)	
Updates (ln)	2.674	1.666	3.518*	-0.188***	-0.167**	-0.200***	
	(1.39)	(0.87)	(1.83)	(-2.76)	(-2.46)	(-2.80)	
Staffpick	-1.690	0.375	-2.050	-0.071	-0.135**	-0.066	
	(-1.06)	(0.27)	(-1.36)	(-1.03)	(-2.04)	(-0.94)	
US (Dummy)	-0.023	-0.001	-0.021	-0.036	-0.037	-0.040	
	(-0.13)	(-0.01)	(-0.12)	(-0.34)	(-0.41)	(-0.37)	
San Francisco (Dummy)	0.023	0.038	0.026	-0.059	-0.022	-0.065	
	(0.16)	(0.25)	(0.18)	(-1.05)	(-0.40)	(-1.13)	
Observations	100	96	100	100	96	100	
Year FE	YES	YES	YES	YES	YES	YES	
R-squared	0.175	0.363	0.208	0.384	0.460	0.388	
F-test	1.982	3.790	2.460	5.083	7.105	4.560	

* Significant at 10% level
** Significant at 5% level
*** Significant at 1% level

Table 2.3 shows the results of the full specifications including all factors. From specification 1 and 4 I can see that limited seating has a significant effect. Therefore in specification 2 and 5 I replace the dummy for limited funding. The effect is still significant. The interpretation of limited funding is slightly different. When the limit is set higher than this is related to more overfunding and a shorter duration. In specification three shows that when the total income of your limited price

menu options is set lower than the funding goal this has a negative effect on the overfunding. In line with specification three, specification six shows that the duration until the funding goal is reached increases when the total income of your limited price menu options is set lower than the funding goal. Note that Specification two and five only shows 96 observations, this is due the fact that four observations did not include a limitation in their price menu.

Table 2.4 specifications including all factors with overfunding (Ln), Overfunding scaled for days and overpayment.

	(1)	(2)	(3)	
	Overfunding (ln)	**Overfunding per Day**	**Overpayment**	**Test**
Independent Variables				
Price Menu Options (#)	-0.061	-0.009	-0.062***	H1
	(-1.19)	(-0.82)	(-3.48)	
Average Discount (%)	0.052	-0.012	0.071	H2
	(0.08)	(-0.09)	(0.28)	
Av. Discount * Price opt.	0.222	0.077**	0.105*	H3
	(1.62)	(2.06)	(1.89)	
Limited Seating (Dummy)	-0.804***	-0.113***	0.026	H4
	(-4.06)	(-2.85)	(0.27)	
Control variables				
Social Influence	0.08	0.037	0.305	
	(0.10)	(0.15)	(1.01)	
Updates (ln)	0.508**	0.110*	0.002	
	(2.24)	(1.86)	(0.03)	
Staffpick	-0.106	-0.051	0.113	
	(-0.51)	(-1.18)	(1.16)	
US (Dummy)	0.307	0.042	0.135	
	(1.14)	(0.94)	(0.89)	
San Francisco (Dummy)	-0.079	-0.012	-0.041	
	(-0.31)	(-0.19)	(-0.43)	
Observations	100	100	100	
Year FE	YES	YES	YES	
R-squared	0.301	0.241	0.191	
F-test	4.489	2.739	2.381	

* Significant at 10% level
** Significant at 5% level
*** Significant at 1% level

Specification 1 shows that updates (Ln) has a significant positive effect on overfunding (Ln). Which means that if the fundraiser increases the updates this has a positive effect on the overfunding. In these specifications I use Ln because of the absolute size of overfunding. I expect that the absolute increase of one unit has a bigger effect on a small number and less effect on a bigger number, like overfunding. Therefore I expect that the relation between updates and overfunding non-linear and is more accurate when expressed in percentages.

Specification 2 also shows that the dummy variable limited seating has a significant negative effect on overfunding (Ln). When the total income of your limited price menu options is set lower than the funding goal this has a negative effect on overfunding (Ln). Specification 2 shows the same negative effect but then on the average amount of funding per day. This done because there exists a difference between in duration of the projects. A project that lasts 60 days instead of 30 days has simply more time to get overfunded. To scale the overfunding variable, the total overfunding is divided by the total of active days of the crowdfunding campaign. The outcome of this specification is in line with hypothesis 4.

Specification 2 also shows a positive significant effect from the interaction between average discount and price price menu options and overfunding per day. The positive relation between average discount*price menu options and overfunding per day that when you increase your discount it is recommended to increase your price menu options (and the other way around) because this will have a positive effect on the overfunding per day. This outcome is in line with hypothesis 3.

The variable price menu options cannot be zero. Therefore the mean of this variable (10.58) for the 100 observations is extracted for each observation. In this way the coefficients can be better interpreted because the strength of the interaction effect is more visible in the coefficients.

Specification 3 shows the effect on the independent variable overpayment. This variable is the average contribution of a funder compared to the suggested future retail price of the reward.

Price menu options has a significant negative effect on overpayment. This means that more price menu options can lead to less overpayment compared to the retail price. This is the opposite effect then I expected in hypothesis 1. This could be because in this specification the interaction average discount and price menu options is included. Therefore the interpretation of the coefficient is as follow; when the discount is equal to zero than an increase in the number of price menu options has a negative influence on overpayment.

Unlike the other hypotheses (1, 3 and 4), I did not found a significant relationship between the average discount and the dependent variables. There is only an interaction of average discount with the number of price menu options following hypothesis 3.

In Appendix 8 additional interaction terms are tested (Staffpick * Updates (ln), Social * San Francisco, Staffpick * San Francisco). No significant relations were found. With the additional interaction terms included the main results are still significant.

6. Conclusion

6.1 General conclusion

The research of Ming & Mengze (2015) found that a menu price strategy has a better fit with the crowdfunding business model compared to other price strategies. To extend the research of Ming & Mengze (2015) the purpose of this research is to find characteristics of menu price strategies that determine the success of a crowdfunding campaign. In this way future fundraisers can apply these determents to increase the quality of the menu pricing strategy. After analyzing the data of 100 samples a few statements can be made about characteristics that are determinant for a successful menu price strategy.

First, I find that if the potential income of limited price menu options is lower than the funding goal then this is negatively related to overfunding. In other words it can be profitable for a fundraiser to increase the limited price menu options. This effect could arise because consumers are sensitive to exclusivity. The exclusivity and fear of missing the opportunity to profit from the option, can convince the consumer to purchase a product. If your potential income from limited price menu options is lower than the fund goal, then the project will obtain less overfunding on average. The higher the potential income of your limited price menu options, the higher the overfunding on average.

Another finding is that the interaction of the average discount per price category and the amount of price menu options has no relation with overfunding. But when overfunding is measured as average funding amount per day of the crowdfunding campaign the interaction of average discount and the amount of price menu options has a positively related with overfunding. Which means that when the fundraiser increases the average discount, price menu options, or both this will have a positive effect on the overfunding amount per day.

Furthermore this research confirms that the amount of updates is positively related with overfunding and the time duration of reaching the funding. This outcome is in line with earlier research of Kuppuswamy et al. (2015) and Mollick (2013). It is highly recommended that the fundraiser keeps the funders updated.

6.2 Managerial implication

The outcome of this research is relevant for future fundraisers and crowdfunding platforms;

First, the fundraiser should consider when increasing the amount of price menu options that he also should increase the discount over the amount of price menu options. Not increasing discount while increasing the amount of price menu options could have a negative effect on the average funding amount per day. I argue that this is likely to happen because when adding price menu options some price menu options look less attractive to purchase than other price menu options due '' the anchoring effect''. Discount could make a price menu option seem more or less attractive compared other price menu options. So if the fundraiser adds a price menu option, make sure it is a price menu option worth to consider for the funder. This can maybe be done by adjusting discount to the other price menu option.

Second, following the outcome of this research the fundraiser should set the total income of the limited price menu options higher than the pre-set funding goal. I argue that this is likely to happen because funders are sensible for exclusivity. Limited price menu options forces funders to make quick decisions because of the fear for missing out. The fundraiser can take this in to account while setting up the price menu and the pre-set funding goal.

Third, crowdfunding platforms can instruct fundraisers better when it comes to making price menu strategy decisions. They can use this research to inform fundraisers that characteristics like the amount of limitations, discounts and price menu options can positively influence the success of the crowdfunding campaign. Crowdfunding platforms can inform their funder about this effect by adding it to the handbooks that are available for funders.

Fourth, crowdfunding platforms could give a note to the fundraiser when setting the income of the limited price menu options higher than the pre-set funding goal. This could be integrated in to the creator's environment of the crowdfunding platform. For example, when the fundraiser does not cross the threshold of the pre-set funding goal by not adding enough limited price menu option a pop-up could arise with a note that not adding enough limited price menu options could have a negative effect on the outcome of overfunding.

6.3 Limitations

This research had a couple limitation that could be considered when doing future research. The first limitation is the selection bias. Because Kickstarter.com only provides access to finished successful campaigns, this research is based on only successful crowdfunding campaigns therefore only successful projects could be compared. Including non-successful campaigns in the research could get a better view on the determents for success.

Another limitation in the selection bias is that this research used data from crowdfunding campaigns of technology based crowdfunding campaigns. So it is not certain that the outcome of this research can also be applied on other categories within crowdfunding.

At last, this research is based on ex-post information. I could not collect data about development of the funding cycle. The ex-post data of the funding cycle makes it harder to see the characteristics that determine the success of a crowdfunding campaign. For instance which price menu options where filled up first.

6.4 Future research

In this research the relation between pricing menus and the success of crowdfunding has been explored. While the results indicate that pricing menus do matter for the success, it is difficult to argue that there is a causal relation based on these analyses. I argue that limited seating attracts

funders, but that limits below the funding goal lead to less overfunding and a longer time to the funding goal. However other explanations are possible. For example the limited seating can be related to project quality. Since project quality is difficult to observe and left out from my analyses, the coefficients could be biased due to endogeneity. The search for a good proxy for project quality or instrumental variable would be an interesting area for future research.

Success in this research was measured as the level of overfunding or the time period needed to collect the funding goal. A potential problem for both variables is that they are dependent on the choice of the fundraiser. The fundraiser can decide the funding target and on the end date. This influences these variables and if there is a systematic bias (for example better quality projects, owned by better managers, have lower funding goals), this biases the coefficients. To control as much as possible for this, I scaled the overfunding by project duration (different between end and start date). However a different method could be to look only at project of similar duration and size and make comparisons within these groups. This would require to increase the sample in order set higher limitations.

Another interesting research would be to look at the probability of success (reaching the funding goal) instead of the level of success (overfunding and duration). For example, while limited seating leads to a longer duration, the exclusivity might increase the probability of success. If that is the case, then fundraisers need to make a decision between the duration and the probability.

At last, the sample contains 100 observations, which is rather limited. Future research could increase the sample size to obtain more power. Furthermore other categories could be explored as well to see if similar pricing menu strategies matter for these categories as well. Especially in more homogeneous categories, strategies could be more important than in others. Perhaps, more importantly, while the crowdfunding campaigns were randomly collected by the researcher, potential funders do not find crowdfunding campaigns randomly. It might be important to take a sample that is randomly selected from the perspective of the funder

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Appendix

Appendix 1: Quantity-restricted sales promotion at Coolblue

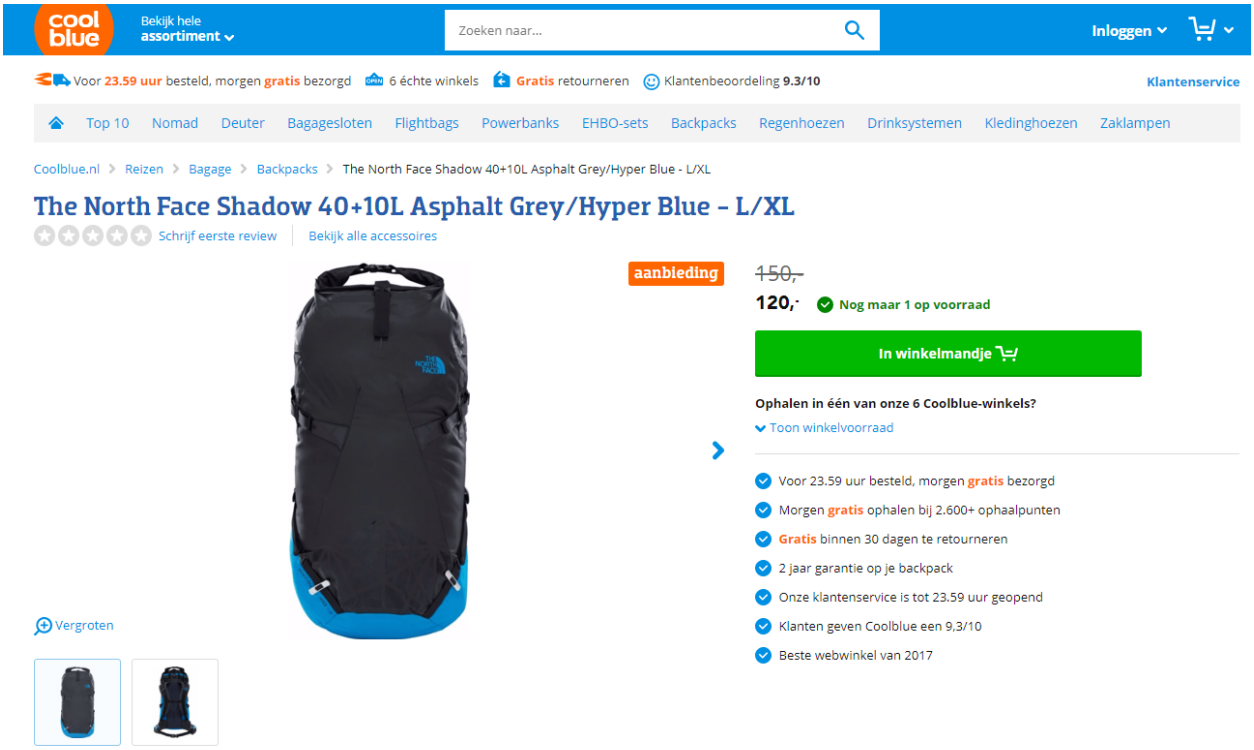

Figure 2 Quantity-restricted sales promotion on Cooblue (only one in stock), Retrieved from Coolblue.nl (2017)

Appendix 2: Overview variables, measurements, literature and source

Variables	Measure method	Literature	Source
Dependent Variables			
Duration	Speed of funding (fund date +1 -start date)/(enddate-startdate+1)	Ahlers et al., 2015	Appendix 5, number 1,2,3
Overfunding	Overfunding ratio (total funding amount/funding goal)		Appendix 3, number 8,7
Independent Variables			
Number of price menu options	Absolute number of price menu options	Kuppuswamy, et al., 2015.	Appendix 3, Number 1
Average discount	% Of discount on future retail price compared to the price of price menu option and divided by all the other discount of the pricing menu.	-	Appendix 3, number 1, 3,4
Limited price menu options	Total amount of funding raised with limited pricing options	-	Appendix 3, Number 1,3,5
Limited seating (dummy)	If the total funding amount of the limited price menu options is set lower than the funding goal is = 1, If the total funding amount of the limited price menu options is set higher than the funding goal is = 0	-	Appendix 3, Number 3,5,7
Control variables			
Social influence	New Funders/Total funders	Argawal, et al., 2015 and Kuppuswamy, et al., 2015	Appendix 4, Number 1,2
Updates	Absolute number of updates	Kuppuswamy, et al., 2015 and Mollick, 2013.	Appendix 3, Number 9
Kickstarter Staff Pick (dummy)	Kickstarter Staff Pick= 1, Otherwise= 0	-	Appendix 3, Number 12
Geographic Origin			
San Francisco (dummy)	San Francisco= 1, Otherwise= 0	-	Appendix 3, Number 10
US (dummy)	US = 1, Otherwise = 0	-	Appendix 3, Number 10
Fixed effects			
Year fixed effects	Starting year off crowdfunding campaign	-	Appendix 5, Number 1

Table 1 Overview variables, measurements, literature and source.

Appendix 3: Overview Kickstarter Campaign page

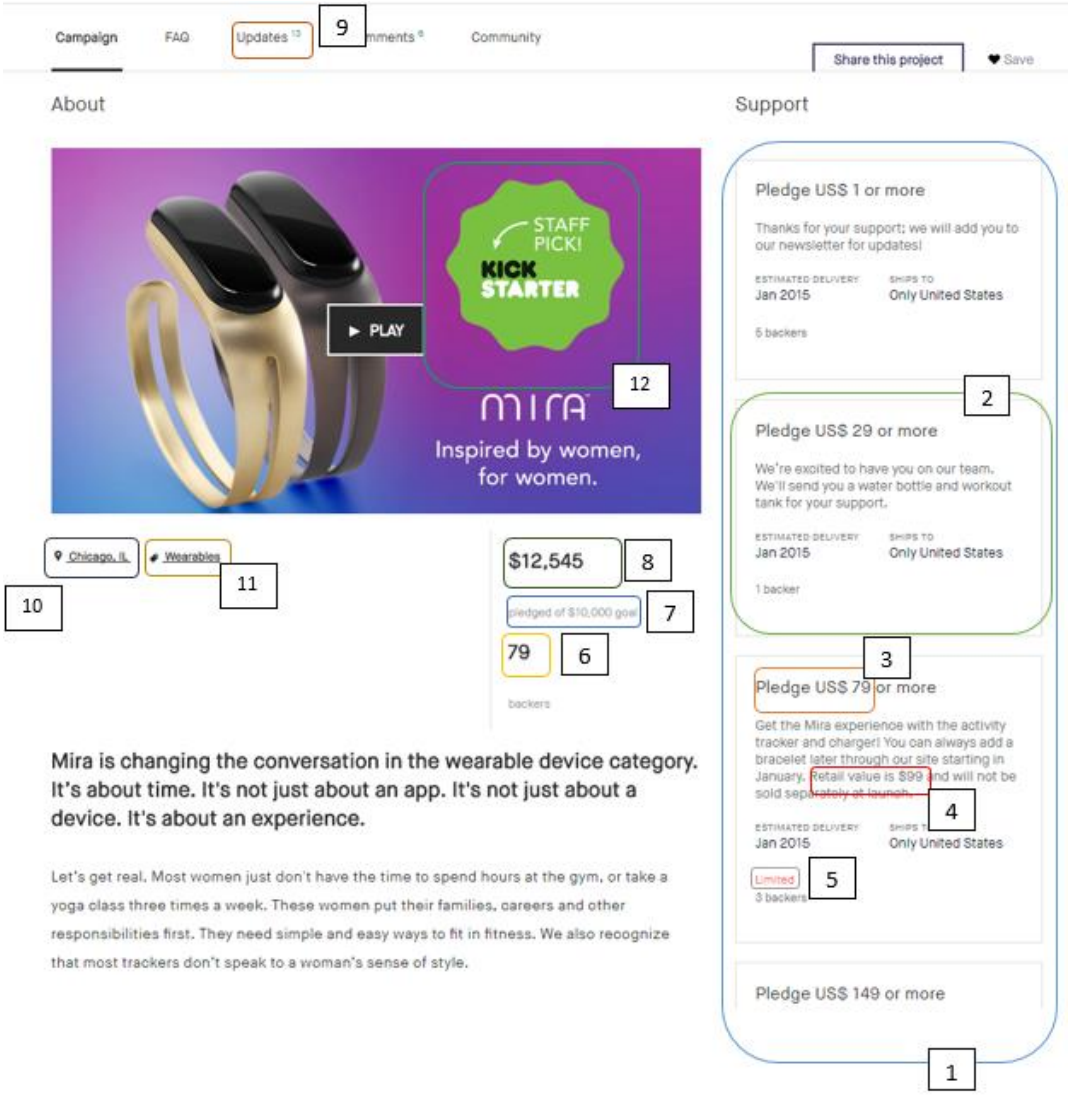

Figure 3 Kickstarter.com. (2017). Retrieved from Kickstarter.com: https://www.kickstarter.com/projects/mymirafit/mira

1. The pricing menu
2. One pricing menu option
3. Price of the pricing menu option
4. Future retail price
5. Pricing menu option is limited
6. Total amount of funders
7. Pre-set funding goal
8. Total amount of fund raised
9. Total amount of updates
10. Geographic origin
11. Sub-category of the project
12. Kickstarter Staff Pick indication

Appendix 4: Overview Kickstarter Community page

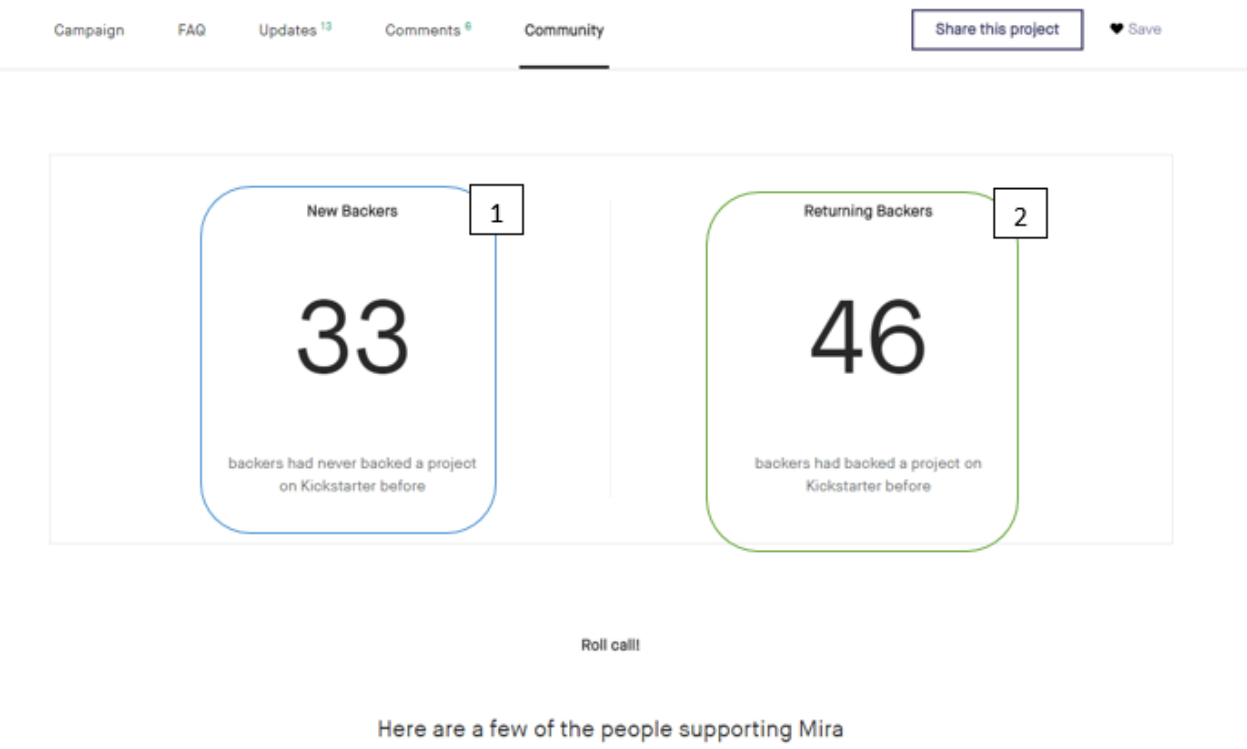

Figure 4 Kickstarter.com. (2017). Retrieved from Kickstarter.com: https://www.kickstarter.com/projects/mymirafit/mira/community

1. Amount of funders that support a Kickstarter campaign for the first time.
2. Amount of funders that supported a Kickstarter campaign before

Appendix 5: Overview Kickstarter Updates page

1. Start date of the crowdfunding campaign

2. End date of the crowdfunding campaign

3. Date when funding goal is reached

Figure 5 Kickstarter.com. (2017). Retrieved from Kickstarter.com: https://www.kickstarter.com/projects/mymirafit/mira/updates

Appendix 6: Search procedure

The data source is picked from successfully funded campaign between. Kickstarter provides access to finished crowdfunding campaigns on the platform. By selecting ''everything" in the explore menu on the homepage of Kickstarter. After selecting ''everything"' a filter menu arises and the following filter is applied; Show me Technology, Projects on Earth, Sorted by Magic. The sorting by magic randomizes the search results. Subsequently the project are manually and random picked. A total of one hundred individual samples where gathered from Kickstarter.com.

Appendix 7: Table 1.6; Average funders per year and average contribution per year.

Year	Total Funders	Average Contribution
2012	490	346
2013	3,701	159
2014	1,787	235
2015	2,144	298
2016	3,751	188
2017	1,669	685

Table 1.6 Average funders per year and average contribution per year.

Appendix 8: Table 2.5 Specifications additional interactions

Table 2.5: Specifications additional interactions (Staffpick * Updates (ln), Social * San Francisco, Staffpick * San Francisco)

	(1) Overfunding per Day	(2) Overfunding per Day	(3) Overfunding per Day	Testing
Independent Variables				
Price menu options (#)	-0.010	-0.010	-0.009	H1
	(-0.86)	(-0.94)	(-0.75)	
Average Discount (%)	-0.026	-0.075	-0.018	H2
	(-0.18)	(-0.52)	(-0.13)	
Av. Discount * Price Cat.	0.079**	0.083**	0.075*	H3
	(2.10)	(2.44)	(1.96)	
Limited Seating (Dummy)	-0.116***	-0.129***	-0.115***	H4
	(-2.87)	(-3.05)	(-2.88)	
Control variables				
Social Influence	0.056	-0.189	0.028	
	(0.24)	(-0.83)	(0.12)	
Updates (ln)	0.141*	0.108*	0.110*	
	(1.77)	(1.87)	(1.83)	
Staffpick	-0.045	-0.045	-0.037	
	(-1.07)	(-1.09)	(-0.80)	
US (Dummy)	0.041	0.039	0.043	
	(0.92)	(0.89)	(0.97)	
San Francisco (Dummy)	-0.019	-0.045	0.005	
	(-0.29)	(-0.78)	(0.06)	
Staffpick * Updates (ln)	-0.082			
	(-1.01)			
Social In.* San Francisco		1.110*		
		(1.77)		
Staffpick * San Francisco			-0.069	
			(-0.64)	
Observations	100	100	100	
Year FE	YES	YES	YES	
R-squared	0.248	0.286	0.243	
F-test	2.521	2.815	2.453	

* Significant at 10% level
** Significant at 5% level
*** Significant at 1% level