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Crowdfunding for Sustainable Entrepreneurship

Learnings from qualitative and experimental research.

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An experimental study on influencing the contribution willingness of crowdfunders.

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ABSTRACT

Bringing a new idea to life is a big challenge for sustainable entrepreneurs and user innovators. Especially, the initial funding of a project is essential. There are many different ways to finance a new venture or an inventive product: bank loans, angel investments or even venture capital are possible ways of accessing money. Additionally, crowdfunding can be seen as serious alternative for financing sustainable entrepreneurship. This paper first sheds light on motivations for launching a crowdfunding campaign and we show evidence that launching a crowdfunding campaign serves marketing aspects as well as financing reasons. Second, our paper explores if a third party feature can be a valuable support for funding a sustainability project via crowdfunding, especially if there are several of similar projects pledging for funding. Therefore, we elaborate on coordination effects within a setting of sustainable projects made salient by different types of third party features. Funders are confronted with several similar projects pledging for funds. Projects are realized only, when reaching a minimum threshold. This fact causes coordination problems within the group of funders. We present results from a threshold public goods experiment, which mimics a crowdfunding situation and shows the effect of making one or more projects salient by using a feature. Our results show, that using a feature helps to reduce the coordination problems and increases the number of funded projects. The analysis implies that funders' willingness to contribute is different when using an institutional or regional sustainability feature. These results shed light on the dynamics of crowdfunding sustainable projects and offer new insights for user innovators, entrepreneurs, and institutions on how to foster contributions into sustainable projects.

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1. Introduction

Crowdfunding is a mega trend and its benefit that borrowers and investors are receiving is unprecedented in financial history (Assenova et al. 2016).

A crucial step in user sustainable entrepreneurship is the formation and financing of a company. Especially, the initial funding of a project is essential. There are many different ways to finance a new venture or an innovative product: bank loans, angel investments or even venture capital are seen as more traditional ways of accessing money. Within the last few years, micro lending, especially crowdfunding, became a serious alternative for accessing capital (Allison et al. 2015). Using the internet, user innovators and sustainable entrepreneurs are able to raise small amounts of money from a large group of individuals nearly without any transaction cost. Platforms like Startnext, Kickstarter or Indiegogo enable entrepreneurs to get access to a large number of potential investors. Especially for raising seed capital and early-stage equity, crowdfunding is an opportunity for entrepreneurs. As crowdfunding takes place in social networking platforms, funders can communicate with other funders, as well as with founders (Agrawal et al. 2015).

However, the nature of a network brings one disadvantage: if the network is getting bigger, individuals as well as projects are more likely to be overlooked. Therefore, crowdfunding platforms also fulfill the function of a coordination site (Younkin and Kaskooli, 2016). Projects being successful on crowdfunding platforms often show some form of salience. For example, Kickstarter highlights especially promising projects on top of the website, which Mollick (2014) found out to be strongly associated with success. Somewhat more specific, Belleflamme et al. (2015) found that a recommendation system, based on the decisions of previous funders, works better with niche products than with mass market products. In both cases, the recommendation comes from the crowdfunding platforms. As crowdfunding platforms have to act in the interest of both the funder and the founder, the issue of objectivity of the certification arises (Belleflamme et al. 2015). An independent third party could provide this certification while at the same time maintaining objectivity. Especially in crowdfunding of sustainable entrepreneurship a third party certification could be meaningful. Hörisch (2015) supposes that a lack of business skills of the initiators is one reason for low success rates of environmental crowdfunding projects. A third party certification of a project possibly could outweigh this lack. Therefore the first aim of this paper is to evaluate to what degree the motivations for starting a venture differ between sustainable and non-sustainable entrepreneurs. Our second aim is to examine, if a third party featuring a sustainable project triggers (or does not trigger) attention and leads to the selection of the very project in crowdfunding decisions. Ultimately, our results could be a basis for further political decisions regarding official types of sustainable featuring.

Crowdfunding is a promising approach to finance and support sustainable ventures by private investors. Moreover, it is a method for fostering end users to take over innovative and entrepreneurial roles, because the call for funding on a crowdfunding website serves additional purpose like a price test,

a test for acceptance (Belleflamme et al. 2014), or as a means of marketing (Mollick, 2014). Hence crowdfunding can be seen as the most promising solution for raising capital (De Buysere et al. 2012). But motivations of sustainable entrepreneurs for starting a venture are different from common, non-sustainable entrepreneurs. They are often of non-financial nature, such as “affecting change”, “meeting a social issue” or “personal satisfaction” (Shaw and Carter, 2007).

Solely investments via equity-based crowdfunding are expected to increase by approximately 20,96% CAGR in Europe from 853.3 million Euro in 2016 to 1,826.6 million Euro in 2020 (Statista, 2016a). Taking a look at these numbers, funders and founders are challenged by a large number of similar projects pledging for money simultaneously. This choice of several hardly distinguishable projects causes coordination problems within the group of funders. Along with that, the risk of missing the necessary threshold for successful financing of a single project increases (Corazzini et al. 2015). The coordination problem can be diminished to a certain degree by making one option salient. Corazzini et al. (2015) show with a multiple threshold public good experiment that, given that all public goods are identical per se, making one option salient increases the chance of reaching the threshold. In their paper, salience can either be achieved on merits (i.e. one option offers higher payment) or by highlighting one option. Regarding crowdfunding of sustainable projects the question arises, if featuring (e.g. a sustainability seal¹) could be a coordination instrument. Bickart and Ruth (2012) show within an advertiser-consumer setting, that highlighting products (in their case: with an eco-seal) leads to a higher purchase intention and an increased preference for that product. However, to the best of our knowledge, so far no study has focused on the coordination effect of different third party features, if options are not distinguishable per se. In this paper we examine, if different types of third party features have an impact on the contribution willingness of funders. We conducted a laboratory experiment, using different types of sustainable features to make projects salient. We decided to use featuring based on the data we collected in the context of a master’s thesis at the Chair of Corporate Management (Technical University of Munich), serving as a pre-study for the experiment presented within this paper. 155 participants were asked, under which conditions they would support sustainable crowdfunding projects. The results show, that participants are more likely to crowdfund sustainable projects, if the European Union offers tax reduction and additional support or uses a seal to proof that a project acts sustainable. This leads us to the assumption, that funder’s willingness to participate in crowdfunding of sustainable projects is higher, if the projects are approved to be sustainable by an (institutional) label or feature. In this questionnaire, only the willingness to invest was measured, and sustainable labels might go along with social desirability, whereas in our lab experiment we observe the actual amount people anonymously invest instead of keeping the money on their private account.

¹ Bickart and Ruth (2012) define “seals” as any form of certification, verification, assurance or label regarding a product’s performance on an important characteristics. Therefore, any form of EU or regional feature applies for this definition.

Our paper follows a twostep process: First, we conducted semi structured interviews among sustainable entrepreneurs in order to learn about their motivations for launching a crowdfunding campaign. We wanted to analyze whether, and to which degree motivations for launching a crowdfunding campaign differ among sustainable and non-sustainable entrepreneurs. Second, we explore if a third party feature can be a valuable support for the funding of sustainable entrepreneurship via crowdfunding, especially if there are several of similar projects pledging for funding. In particular, we shed light onto the coordination effects within a setting of sustainable projects made salient by different types of third party features. We followed Corazzini et al. (2015) and re-designed their multiple threshold public good experiment to represent the different options offered by a crowdfunding platform. Our results show that funders react differently, if confronted with institutional (i.e. EU-seals) and regional sustainability features.

We present our research within this paper starting with a brief literature review in chapter 2 to show the evidence of making a crowdfunding project salient to attract more funders. Chapter 3 presents the qualitative study. We then provide our experimental design in detail in chapter 4, which is followed by the display of results in chapter 5. Based on that, we discuss our findings and also show limitations in chapter 6 and 7. Finally, we derive some implications out of the findings.

2. Literature review

In recent years, crowdfunding became a serious alternative for financing new ventures. Belleflamme et al. (2013) define crowdfunding as “an open call especially through the internet for the provision of financial resources either in form of donation or in exchange for some form of reward and/or voting rights in order to support initiatives for specific purposes.” This definition is strongly influenced by crowdfunding’s origins in crowdsourcing for art projects. Art projects like games, design, movies and music form the majority regarding funds collected and total numbers of successful projects on Kickstarter (Statista, 2016b). Food and beverage projects are the most important non-art category (Statista, 2016c). One reason might be that many food and beverage projects calling for funding through crowdfunding do not only contain the mere product, but also some underlying ideology and hence obtain attention via salience. The same could be true for sustainable ventures as some type of ideology goes along with them. However, this differentiation works, if comparing sustainable and non-sustainable alternatives. Though, on many crowdfunding platforms several sustainable projects compete for financing. Lehner (2013, p.2) defines sustainable entrepreneurship as “all kinds of ventures that have a social or environmental mission as their primal goal, which aim to be financially and legally independent and strive to become self-sustainable by means of the market”. Sustainable, especially environmental or social ventures usually face some problems while acquiring funding from conventional sources (O’Rourke, 2010): Social entrepreneurs often have reasons other than financial ones when starting a venture. This reasons are for example “affecting change”, “meeting a social issue” or “personal satisfaction” (Shaw and Carter, 2007). As a consequence, they often struggle with acquiring funds from conventional financiers as their different

terminology and values make it difficult to communicate (Lehner, 2013). Crowdfunding offers an alternative means of finance for these ventures. However, entrepreneurs often use crowdfunding for further reasons (Gerber and Hui, 2013). While interacting with the crowd, they want to expand the awareness of their work and gain approval for it. Furthermore, they want to form connections. They consider crowdfunding as a possibility of learning new funding skills and they can raise funds without (partially) giving up control over their venture. A lot of research has been done on exploring the different useful aspects of a call for funding on a crowdfunding website. For an overview see Macht and Wheaterston (2015), or Belleflamme et al. (2015). However, two aspects have to be looked at in more detail.

One is, that the crowdfunding literature does not differentiate between common non-sustainable and sustainable projects. Regarding types of crowdfunding ventures, only a differentiation between for-profit and non-for-profit is made. Thus, our paper contributes to the literature in a twofold way: we explicitly examine investment decisions in sustainable projects. Furthermore, we evaluate whether the motivations of sustainable entrepreneurs when starting a crowdfunding campaign are the same as the ones of non-sustainable entrepreneurs.

Second, little is known about factors influencing the funder's actual investment decisions. Taking a closer look on crowdfunding three different types of crowdfunding can be identified (Belleflamme et al. 2013): reward based crowdfunding, loan based crowdfunding, and equity based crowdfunding. Lehner (2013) identifies the donation based model as a fourth type of crowdfunding. These categories might be relevant in distinguishing the individual's motivational aspects for choosing a funding project. Gerber and Hui (2013) point out, that the main motivations for funding a project are "engage and contribute to a trusting and creative community", "seek rewards", and "support creators and causes". Quite contrary to these findings, Cholakova and Clarysse (2015) explore how financial and nonfinancial motivations influence funders to invest into a certain project. They found out that the overall motivation of funders is financial or utilitarian. Funders choose only projects to invest in, which are perceived promising. Additionally, Yao and Zhang (2014) show that the success of a crowdfunding project depends on customer participation and ability-based trust. Consumers want to participate in the projects, they want to give advice and they want to interact with the founder. Furthermore, the experience of a founder gives consumers or funder's confidence in the supported project and creates trust. These findings show, that the crowdfunding community is not as homogeneous as assumed (Lin et al. 2014). Agrawal et al. (2015) found that the point in time at which funders support a project depends on the distance between founder and funder. Local funders support projects more in the early stage whereas distant funders support projects having already risen funds. As local funders often have some form of relation to the founder, their motivation to invest at an early stage could be some form of patronage. In contrast, distant funders less often have a relation to the funder and hence are motivated by the idea of realizing a monetary return (Ordanini et al. 2011). Those distant funders face the problem of assessing the quality of the projects. Neither do they know the founder nor do they have the time and ability to do extensively research on their project (Ahlers et al. 2015). Based on that, two problems derive: assessing the project quality and

coordinating funding (Younkin and Kaskooli, 2016). The latter appearing especially if numerous projects are presented for funding and more rational acting funders are confronted with the difficulties of coordinating their contribution (Corazzini et al. 2015). The more identical projects are displayed, the amount of contributed money decreases. Corazzini et al. (2015) find out, that using any kind of signal to make one contribution option more salient, will help to ease the decision process of funders, reduces their uncertainty and helps at least partly to overcome the coordination problems. Additionally, more contributors are attracted, if one option is more salient than the other. Ahlers et al. (2015) show that the provision of additional information is a valuable signal, following the Signaling Theory of Spence (1973) which is costly to acquire, demands a signal to be observable, and which can be manipulated. Bickart and Ruth (2013) show in a marketing-consumer context, that people who are highly environmentally concerned prefer institutional seals over fictional seals as a means of quality assurance. In this study, we combine their findings to analyze if sustainability features work as a coordination instrument. Crowdfunders as nonprofessional investors rely on salient signals, as they do not want to spend time on gathering information and often cannot evaluate available information on projects (Macht and Wheaterston, 2014). However, in order to properly evaluate a sustainable project, information would be if not required, at least useful. Therefore, one could argue, that raising funds through crowdfunding is more difficult for sustainable than non-sustainable ventures. Hence, we explore in a first step the motivations of sustainable entrepreneurs.

3. Crowdfunding as a means for bringing sustainability projects to life (Qualitative Study)

In this qualitative study, we want to analyze the motivations of sustainable entrepreneurs for launching a call for funding on a crowdfunding platform. It is important to evaluate whether sustainable entrepreneurs follow the same motivation for starting a crowdfunding campaign as non-sustainable entrepreneurs. Based on this evaluation, the need for different or additional support for funders can be judged.

3.1 Study design

We followed the call of Hlady-Rispal and Jouison-Laffitte (2014) for qualitative research in entrepreneurship and conducted structured interviews with founders of crowdfunding projects. We aimed to add depth to the phenomena of crowdfunding by analyzing the motivation of participants with an explicit sustainable focus. This more phenomena driven approach is especially suitable for generating results with an impact for policymakers and practitioners (Hlady-Rispal and Jouison-Laffitte, 2014). Moreover, a more specific view on the motivations of actors in the crowdfunding game can be helpful to either support or refine existing frameworks for why people create and support projects on crowdfunding platforms.

3.2 Participants

We interviewed seven German crowdfunder (4 female, 3 male). 5 had created a project on the crowdfunding platform Startnext², one on VisionBakery³, and one worked for the crowdinvesting platform bettervest⁴. Startnext, VisionBakery and bettervest are located in Germany. We applied homogeneous sampling, as our focus lay on in-depth studying of subgroups with homogeneous characteristics (Patton, 2002). The subgroup are sustainable entrepreneurs in the broader context of crowdfunding. According to that, the selection criteria was that the definition of Lehner (2013) for sustainable entrepreneurship should be applicable on the projects. Hence, we considered “all kinds of ventures that have a social or environmental mission as their primal goal” (Lehner 2013, p.290). The projects were from the categories education, social activity and food. Participants received no payment for their participation. All projects were reward based crowdfunding projects.

3.3 Procedure

All seven interviews were structured interviews and were conducted via phone and in German. At the beginning of each interview the interviewees were informed that the interview is recorded and will be transcribed. They were guaranteed that all information is only used for research purpose and no information especially name or project title would be revealed.

3.4 Data analysis

Literature offers some framework on motivations of founders in general for starting a crowdfunding campaign. Namely Gerber and Hui (2013) defined six core motivations of founders. However, as sustainable entrepreneurship is a rather evolving phenomenon, it is unclear whether sustainable entrepreneurs have the same motivations for starting a crowdfunding campaign. We used the framework on motivations of Gerber and Hui (2013) as a guideline for coding the interviews. Coding was done by two researchers. Each of the seven interviews was coded independently by the two coders. In a first step, every comment on motivation for or advantage of crowdfunding was flagged. In a second step, each section coded either as motivation or advantage was recoded using refined codes based on the core motivations out of the literature. The respective motivations of the founders simply were counted in order to receive a frequency table. This was suitable for us, as our main perspective was not to develop an entirely new framework on motivation for crowdfunding. Moreover we wanted to review whether the existing model is applicable on sustainable crowdfunding and, if necessary, to refine it.

² <https://www.startnext.com/>

³ <https://www.visionbakery.com/>

⁴ <https://www.bettervest.de>

3.5 Results

As crowdfunding is a more or less new phenomenon, the academic literature on this topic is “still very developmental, currently consisting of only a small albeit growing, base of published scholarly research” as Macht and Weatherston (2015, p.190) state. Despite that fact, the literature review resulted in a reasonable classification of motivations of founders for starting a crowdfunding campaign developed by Gerber and Hui (2013). As their classification is rooted in various interviews with founders as well as funders, we adopted their classification for our research. The following table shows the core motivations for founders to start a crowdfunding campaign, according to Gerber and Hui (2013).

Table 1: Motivations of founders based on literature

Motivation
Raise Funds
Expand Awareness of Work
Form Connections
Gain Approval
Maintain Control
Learn new fundraising skills

(Source: Gerber & Hui, 2013)

They found that *raising funds, expand awareness of work, form connections, gain approval, maintain control and learning new fundraising skills* are the core motivations of founders.

We used these motivations, however we slightly renamed them for mere practical reasons: they are now more to the point and make it easier to cluster. *Raising funds* equals to *fundraising*, *expand awareness of work* equals to *marketing*, *form connections* to *feedback*, *gain approval* to *relevance*, *maintain control* to *independence*. We did not use *learning new fundraising skills* as none of the interviewees mentioned this point. Instead, we added *risk avoidance*. The respective motivations of the founders simply were counted in order to receive a frequency table. The Table is shown below.

Table 2: Frequencies of funder motivations

Motivation (Gerber & Hui, 2013)	Sustainable Entrepreneurs and Employee of CF-Platf.	Signature Citation
Fundraising	3	Financing alternative to bank loans
Independence	3	Avoid being tied to a bank
Feedback	3	
Marketing	6	A marketing campaign
Risk Avoidance	2	
Relevance	3	Show relevance to the bank

Fundraising is a core motivation of funders when starting a crowdfunding campaign. Three of six sustainable entrepreneurs mentioned crowdfunding as a “financing alternative to bank loans” to be a “cheap way of financing”. Somewhat related to that, three of six sustainable entrepreneurs mentioned that they could keep their independence when using crowdfunding, as they could “avoid being tied to a bank”. In line with that, two entrepreneurs mentioned risk avoidance as one motivation for raising funds through crowdfunding. Three entrepreneurs mentioned assessing the relevance of the project to be one of their main motivations. They either wanted to “show relevance to the bank” in preparation of a bank loan, or they just were curious whether they could draw interest on their project. Hence, they just wanted to “see what’s going to happen” when launching a campaign. Consequently, they also appreciated a crowdfunding campaign as a forum for feedback. Again, three sustainable entrepreneurs mentioned feedback as one motivation for crowdfunding. In order to receive feedback, the project first has to be noticed. Therefore, each interviewed entrepreneur sees launching a crowdfunding campaign as a “marketing campaign” and a “powerful marketing tool”. Therefore, crowdfunding can be seen as the best suitable catalyzer for user innovators and sustainable entrepreneurs to bring their project idea to life.

3.6 Discussion

Not surprising, fundraising is a core motivation for founders to crowdfund. This fact also becomes evident as reasons that matched this cluster were named by four of seven interviewees. Crowdfunding platforms are set up based on the idea to raise funds from the crowd (Belleflamme et al. 2015). Crowdfunding as means of financing is chosen because it offers a quick and immediate source of funds (Gerber and Hui, 2013). And furthermore it is an opportunity for those funders who cannot attract traditional funding such as bank loan or venture capital. A second advantage of the crowd and hence a

further motivation for participating in crowdfunding is the possibility to receive feedback from (other) users and evaluate the relevance of the project. Motivations that were matched to these cluster were named by four out of seven interviewees. Mollick (2014) names the pebble smart watch as an example for how a crowdfunding campaign can be seen as a means of demonstrating demand. This demonstration of demand is of outstanding importance for the founder, because of two reasons: One reason is, the founder can see whether or not his idea can meet the demand of the market. If not, the founder can decide to stop investing his scarce resources like his working power, time or money. It thus could prevent him from taking too much risk for a bad idea. The second reason is, if there is a demand and the founder can show this demand by the response to his project, it should become much easier for the founder to attract angel investors or convince venture capitalist and bank officials of providing financial support. Independence as a reason for raising funds through crowdfunding is quite obvious, especially if a donation or reward based crowdfunding approach is applied. Three out of seven interviewees named reasons for crowdfunding related to that cluster. Taking a bank loan or being funded by a venture capitalist always means entering into a commitment, also if only by the obligation of paying interest rates. Donation based and reward based crowdfunding have either a moral obligation, as it is the case in donation based crowdfunding, or the obligation of delivering the product or some form of reward. However, the founder's independence is not stroke. In our interviews motivations related to "risk avoidance" were named by two interviewees. Similar to "independence", crowdfunding offers an opportunity of starting a venture without common financial risk linked with starting a venture.

All interviewees mentioned "marketing" as an important motivation for taking part in crowdfunding. Agrawal et al. (2015) could show, based on the analysis of the data of a crowdfunding platform that, on average, there exists a spatial difference of 3,000 miles between founders and funders. For a startup overcoming such a distance, either with marketing or even with distribution of goods is at least extremely costly if not almost impossible. All participants on a crowdfunding platform, no matter if founder or funder, form a huge audience for the own project. This audience forms awareness of the project. Therefore, creating a crowdfunding campaign also can be seen as a relatively cheap marketing campaign. Belleflamme et al. (2013) found, based on a questionnaire among 69 founders, getting public attention as a high relevant aspect for taking part in crowdfunding. Attention arises for example if the project is very innovative. Kickstarter, a US-based crowdfunding platform, highlights especially promising projects on the start page, which is one form of marketing (Mollick, 2014).

3.7 Conclusion

The primarily focus of this pilot study was to gain information about which motives drive founders of sustainable ventures to make a call for funding on a crowdfunding website? The method of choice to answer this questions was to use structured interviews. Six interviews were conducted with founders of sustainable ventures and one with an employee of a crowdfunding platform. The three main motivations

are, not surprisingly, raising money, using the campaign as a marketing tool and gaining feedback from the crowd.

If and how much an individual contributes to a project cannot easily be influenced. The same holds true for the feedback the crowd gives. By contrast, a marketing campaign can be planned. An advantage of qualitative research is, that it is especially suitable for generating results with an impact for policymakers. Hence, our advice for policymakers would be, if they want to support founders of sustainable ventures, to assist the founders in marketing their campaign. As mentioned in the literature review, featuring one project out of many similar, can increase the success rate of the featured sustainability project.

In the next chapter, we want to analyze if different features can form a valuable support tool for crowdfunding projects and if so, how they should be designed.

4. Contribution coordination in crowdfunding of sustainable entrepreneurship: Does salience effect the contribution willingness of funders? (Laboratory Experiment)

Crowdfunding platforms are somewhat like a marketplace: plenty of projects vying for the attention of the customer. If the market gets too crowded, one can easily lose track. The same holds true for a crowdfunding platform. If there are too many similar projects, potential funders are not able to identify promising projects. To solve this problem, a form of coordination is needed (Younkin and Kaskooli, 2016). Highlighting only one project out of many similar projects draws attention on the very project and therefore can help coordinating the crowd. Hence, we conduct a laboratory experiment to analyze whether salience effects the contribution willingness of funders.

4.1. Experimental Design

The experimental design is an adaption of the design used by Corazzini et al. (2015) for a threshold public good experiment with multiple public goods. Following Andreoni (1998) a threshold public good experiment is well suited for representing a fundraising project in a laboratory experiment. A threshold of the contributed funds has to be reached in order to realize a project, as it is the case on crowdfunding platforms. If the threshold is not reached, participants do not get their investment back, which represents the common practice “Keep-It-All” at the crowdfunding-platform Indiegogo (Cumming et al. 2015). Furthermore, as there are multiple public goods, the situation on a crowdfunding platform, where funders have the choice between different similar projects, is represented.

We run four different treatments using *between* as well as *within* design. The first treatment was run as a reference treatment with only one public good and one private account. Following Corazzini et al. (2015), this setting depicts the general attitude of participants to attempt a common contribution in order to meet the threshold. The other three treatments each consisted of four public goods and one private

account. Consequently, participants in the first treatment only had the decision between investing and not investing while in the other three treatments they additionally had to decide which public good to support. 48 participants took part in treatment one, each 68 participants in treatment two and three and 60 participants in treatment four, resulting in 244 participants in total. For details regarding age and gender of participants, see Table 3. At the beginning of each treatment participants were assigned to groups of four and played four rounds. The groups remained unchanged during the four rounds. A more detailed description of the design follows below.

Table 3: Participant’s information

Treatment	Female	Male	Total	Average Age
T1-Single Pub	18	30	48	25.17
T2-EUSeal	23	45	68	25.91
T3-RegionalSeal	29	39	68	25.43
T4-Eu&Regional	30	30	60	25.65
Total	100	144	244	25

Single public good treatment (reference treatment)

In the reference treatment the participants only had the choice between their private account and a single public good. This treatment will be called *T1-SinglePub* in the following sections. The participants were randomly and anonymously assigned to groups of four. These groups remained unchanged during the treatment. The participants played four rounds. At the beginning of each round, each participant got an endowment of 55 Token. In each round they had to decide whether to put token in their private account or in the public good and how much token to put in. If a participant puts token in his private account, only he benefits thereof. If a participant puts token in the public good, he and the other three members of his group could benefit thereof. This is the case if the total contribution of token of all four group members reaches a certain threshold. Participants get token as endowment and payment in points. This differentiation is necessary as allocation to different accounts generates different payments.

The threshold is 132 token for each round and for each group (values according to Corazzini et al. 2015). 132 token are 60% of the total endowment of the group (i.e. $4 \cdot 55$ token). If the threshold is reached, every participant who allocated at least one token to the public good receives one point for each token allocated to the public good in total by the whole group plus an additional bonus of 30 points. If the threshold is not reached (i.e. less than 132 token), the contribution is lost and the participants receive no points. For any token allocated to the participant’s private account the very participant, and only he, receives two points for every single token.

Multiple public goods treatments

Three treatments were designed as multiple public goods treatments. They included one private account and four public goods. The four public goods in each treatment are completely identical and the

same as the single public good in the reference treatment. In each treatment one of the public goods was randomly featured. In treatment two, one of the four public goods was randomly made salient by slightly modified official sustainable feature of the European Union. This treatment is called *T2-EUSeal*. In treatment three one of the four public goods was randomly made salient by a regional seal⁵. The treatment is called *T3-RegionalSeal*. In treatment four two of four public goods are randomly made salient by the fictional sustainable seal of treatment two and the fictional regional seal of treatment three. This treatment is called *T4-EU&Reg*. In all three treatments for each group the same public good was made salient but the salient public good changed between each of the four rounds.

The participants were randomly and anonymously assigned to groups of four. These groups remained unchanged during the treatments. The participants played four rounds. At the beginning of each round, each participant got an endowment of 55 Token. In each round they had to decide whether to put token in their private account or in the public goods and how much token to put in. If a participant puts token in his private account, only he benefits thereof. If a participant puts token in one of the public goods, he and the other three members of his group could benefit thereof. This is the case, if the total contribution of token of all four group members to the same account of the four public goods reaches a certain threshold. Participants get token as endowment and payment in points. This differentiation is necessary as allocation to different accounts generates different payments.

The thresholds for the public goods were the same as in the single public good treatment, as well as the bonus for reaching the threshold. The conversion of token to points, for the private account and the public goods, was also the same as in the single public good treatment.

4.2 Procedures

The participants were assigned to a computer by randomly drawing a number when entering the laboratory. The language of the experiment was German. General instructions as well as the principles of the participant's tasks were read aloud, after all participants took their seat. At first, participants read the instructions for the treatments on their computer. Then they solved some sample tasks. If they had questions, they could ask and the questions were answered in private.

After all participants had correctly answered the sample question, the actual treatment started. In all four treatments at the beginning of each of the four rounds, a brief description of a type of sustainable crowdfunding project was given. The four types of crowdfunding projects were farmer market, online energy market, food company and energy supplier. Figure 1 shows the sequence of the four rounds in one treatment. In each of the four rounds four public goods represented concrete crowdfunding projects of the particular type of crowdfunding project (e.g. food company, see Appendix A for sample of first round and Appendix B for the descriptions of the further three project types). Participants had the opportunity to allocate token to either their private account (i.e. no participation in crowdfunding) or to

⁵ Seal generously provided by: Biokreis e.V., Verband für ökologischen Landbau und gesunde Ernährung.

any combination of the four public goods (i.e. supporting a crowdfunding campaign). The only restriction was, that all 55 tokens had to be invested. In Treatment *T1-SinglePub* only one public good was shown. The four public goods were called *kreis* (circle), *viereck* (rectangle), *dreieck* (triangle), and *trapez* (trapezoid) and represented four crowdfunding campaigns, all of the same type of crowdfunding project vying for funding. The four public goods, as well as the private account were displayed as identical boxes. They differed only in the heading of the boxes, which was either *private account*, *kreis*, *viereck*, *dreieck*, or *trapez*. Each box also had an input field where participants could type in their contribution. In the boxes, the threshold and the bonus were displayed, too. The order of the four public goods, as well as the assignment of the seal was randomly selected by the computer. All participants were informed about that fact.

At the end of every round, a screen with the same design as the input screen appeared (Appendix C). The boxes for the private account and the public goods now individually contained information for each participant how much he had allocated, how much his group had allocated, if they had reached the threshold and how many points the participant received. Additionally, the total points earned for all contributions were displayed individually for each participant (see Appendix B).

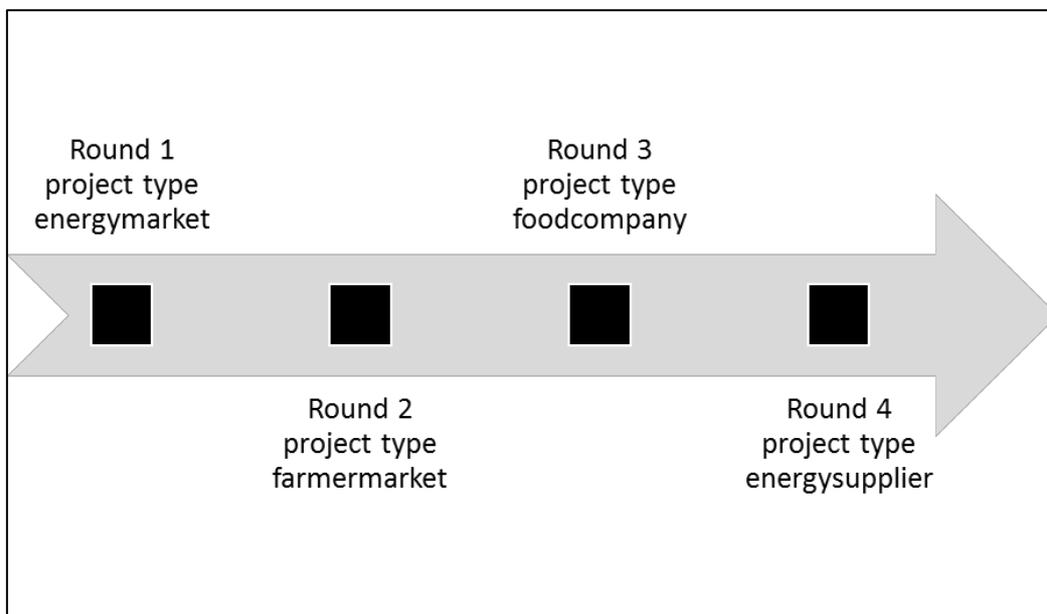


Figure 1: Sequence of one treatment

Participants received their payment cash and privately after four rounds at the end of the session. They were paid 1 Euro for every 100 points. For the payment the points of all four rounds were taken into account. The experiment took place in February and March 2016 at the Laboratory for Experimental Economics at the Technical University of Munich (see Figure 2 for an impression of the laboratory). Participants were mostly graduate and undergraduate students of management as well as students from

other disciplines and technical employees of the university. The experiment was run on z-Tree software (Fischbacher, 2007).



Figure 2: The Laboratory for Experimental Economics at TUM

4.3 Hypothesis

Corrazini et al. (2015) found, that making one option salient can enhance coordination in a multiple option setting. They achieved salience by randomly recommending participants to invest in one public good. On a crowdfunding platform, options being featured by a third party would correlate to that. Therefore, our first hypothesis is:

H1: Sustainable feature make projects more salient and help to solve the coordination problem. This results in a higher contribution to the salient public good.

Bickart and Ruth (2012) compared in a marketing study among undergraduate students the effect of eco-labels awarded either by governmental bodies or by the manufacturers themselves. They found that consumers in general perceive a seal more trustworthy if the seal is awarded by the government. This holds especially true for customers who are only less concerned about the environment in general. As governmental seals seem to be perceived as more trustworthy as non-governmental seals, our second hypothesis is:

H2: An EU-feature for sustainability is perceived as more trustworthy as a regional sustainable feature and therefore solves the coordination problem more efficiently. This results in a higher contribution.

4.4 Experimental results

The preliminary focus on the experiments lay on the comparison of a slightly modified sustainable label promoted by the European Union and a regional fair trade label with regards to user acceptance and coordination. Therefore mean contributions by the participants, the ratio of contribution, budget, and the percentage of successful treatments were analyzed. In addition, the influence of gender and risk attitude was examined.

Mean contributions

Table 4 shows the mean contributions to the private accounts and the public goods for each of the four treatments. Mean contributions are displayed for each of the four rounds and averaged over all four rounds. On average participants contributed to the private account 28.18 token in treatment *T1-SinglePub*, 28.75 token in treatment *T2-EUSeal*, 23.54 token in treatment *T3-RegionalSeal* and 28.01 token in treatment *T4-EU&Reg*. They contributed 26.18 token to the single public good in treatment *T1-SinglePub*, 13.15 token in treatment *T2-EUSeal* and 18.96 token in treatment *T3-RegionalSeal* to the respective public good with the feature and 15.74 token to the public good with the regional feature and 6.20 token to the public good with the sustainable feature in treatment *T4-EU&Reg*. Hence, the mean contributions to the public good were the highest in treatment *T1-SinglePub* followed by treatment *T3-RegionalSeal*.

In treatment *T1-SinglePub* and treatment *T3-RegionalSeal* differences in the mean contributions between the private account and the single public good, respectively the public good with the feature were not significant. However, they were highly significant ($p < 0.01$) in the treatment *T2-EUSeal* (all means were compared with Wilcoxon-Mann-Whitney rank-sum test). The sustainable feature in this treatment cannot coordinate the contribution in the same way as in the reference treatment. However, the coordination effect of the regional feature in treatment *T3-RegionalSeal* is equally effective as it is the case with only one public good in *T1-SinglePub*. In treatment *T4-4Acc1Sus1Reg* the difference between both salient public goods (with sustainable and regional feature) are highly significant ($p < 0.01$). Hence, the existence of a further feature hinders an effective coordination of the contribution by the regional seal.

Table 4: Contribution to private account and public goods in all treatments

Treatments	Round	1	2	3	4	All
T1-Single Pub	Private Acc.	29,063	26,750	28,125	31,333	28,818
	Public Good.	25,938	28,250	26,875	23,667	26,182
	<i>Difference</i>	3,125	-1,500	1,250	7,667	2,635
T2-EUSeal	Private Acc.	20,059	25,471	30,456	39,015	28,750
	Pub.Good. SustSeal.	17,691	17,221	12,162	6,896	13,517
	Pub. Good 1	5,018	0,000	0,000	0,000	5,018
	Pub. Good 2	4,327	0,000	0,000	0,000	4,327
	Pub. Good 3	3,437	0,000	0,000	0,000	3,437
	<i>Diff. Priv-Seal</i>	2,368	8,250	18,294 ***	32,119 ***	15,233 ***
T3-RegionalSeal	Private Acc.	22,618	20,132	22,956	27,309	23,254
	Pub.Good. RegSeal	16,691	21,735	21,882	15,676	18,996
	Pub.Good 1	4,349	0,000	0,000	0,000	4,349
	Pub.Good 2	6,044	0,000	0,000	0,000	6,044
	Pub.Good 3	2,356	0,000	0,000	0,000	2,356
	<i>Diff. Priv-Seal</i>	5,926	-1,603	1,074	11,632 **	4,257
T4-EU&Reg	Private Acc.	25,233	23,417	30,517	32,883	28,013
	Pub.Good. RegSeal	16,467	17,083	15,283	14,150	15,746
	Pub.Good. SustSeal	8,467	8,000	4,217	4,150	6,208
	Pub Good 1	2,429	0,000	0,000	0,000	2,429
	Pub Good 2	2,604	0,000	0,000	0,000	2,604
	<i>Diff. Priv-Reg.</i>	8,767 *	6,333	15,233 ***	18,733 ***	12,267 ***
	<i>Diff. Priv-Sust</i>	16,767 ***	15,417 ***	26,300 ***	28,733 ***	21,804 ***

We compare contributions to salient public goods *within* treatment *T4-EU&Reg* and *between* the treatments *T2-EUSeal* and *T3-RegionalSeal*. Table 5 shows the differences in contributions to the public goods with sustainable and regional feature. *Within* thereby relates to the treatment *T4-EU&Reg* in which contributions to the two salient public goods are compared directly. *Between* compares the contributions to the salient public good in treatment *T2-EUSeal* and *T3-RegionalSeal*. The differences were compared using a Wilcoxon-Mann-Whitney rank sum test. In the *within* as well as in the *between* comparison, mean contributions over all rounds to the public good made salient by the regional feature are higher than contributions to the public good made salient with the sustainable feature and differences are highly significant ($p < 0.01$). Findings are further supported, as mean contributions for each round to the public good made salient with the regional feature are higher and highly significant ($p < 0.01$) in the treatment *T4-EU&Reg*. In the *between* setting, mean contributions to the public good made salient with the regional seal are higher in round 2, 3 and 4, and significant at least on a 5% level.

Table 5: Differences in contribution to salient public goods

	Treatments	Round	1	2	3	4	All
within	T4-EU&Reg		8,000 ***	9,083 ***	11,067 ***	10,000 ***	9,537 ***
between	T2-EUSeal vs. T3-RegionalSeal		-1	4,514 **	9,720 ***	8,780 ***	5,479 ***

Ratio of contribution and budget

Table 6 shows the ratio of mean contribution and total budget for all four treatments for the private accounts as well as for the public goods. Except for treatment *T3-RegionalSeal*, in which participants allocated only about 40% of their endowment to the private account, participants allocated in all treatments about half of their endowment to the private account. In treatment *T4-EU&Reg* participants allocate 29% of their budget to the public good with the regional feature and 11% to the one with the sustainable feature. 9% were contributed to the remaining public goods. Participants in treatment *T2-EUSeal* contributed only 25% to the salient public good (sustainable feature) and 23% to the remaining public goods. In contrast, participants in treatment *T3-RegionalSeal* allocated 35% of their endowment to the salient public good (regional feature) and 23% to the remaining public goods. This confirms the positive coordinating effect of the regional feature. Compared with that, the coordination effect of the sustainable feature is less distinct. The regional feature dominates the sustainable feature with regards to the ratio of contribution to the salient good and budget.

Table 6: Ratio of mean contribution and total budget

Treatments	Round	1	2	3	4	All
T1-Single Pub	Private Acc.	0,53	0,49	0,51	0,57	0,52
	Public Good.	0,47	0,51	0,49	0,43	0,48
T2-EUSeal	Private Acc.	0,36	0,46	0,55	0,71	0,52
	Pub.Good. SustSeal.	0,32	0,31	0,22	0,13	0,25
	Pub. Good 1	0,09	0,00	0,00	0,00	0,09
	Pub. Good 2	0,08	0,00	0,00	0,00	0,08
	Pub. Good 3	0,06	0,00	0,00	0,00	0,06
T3-RegionalSeal	Private Acc.	0,41	0,37	0,42	0,50	0,42
	Pub.Good. RegSeal	0,30	0,40	0,40	0,29	0,35
	Pub.Good 1	0,08	0,00	0,00	0,00	0,08
	Pub.Good 2	0,11	0,00	0,00	0,00	0,11
	Pub.Good 3	0,04	0,00	0,00	0,00	0,04
T4-EU&Reg	Private Acc.	0,46	0,43	0,55	0,60	0,51
	Pub.Good. RegSeal	0,30	0,31	0,28	0,26	0,29
	Pub.Good. SustSeal	0,15	0,15	0,08	0,08	0,11
	Pub Good 1	0,05	0,00	0,00	0,00	0,05
	Pub Good 2	0,04	0,00	0,00	0,00	0,04

Percentage of successfully funded projects in all treatments

The mean contribution to the public goods shows how attractive the particular public goods are for the participants. However, it does not reveal any information whether this projects were successful or not. Hence, we calculated the percentage of successful projects for each treatment (

Table 7). In treatment *T1-SinglePub* 58% of the possible projects in all four rounds were successfully funded⁶. In treatment *T2-EUSeal* 17% of the possible projects were funded. Treatment *T3-RegionalSeal* reached a percentage of 29% successfully funded projects and treatment *T4-EU&Reg* a percentage of 26%. Differences in percentage of successful projects, as calculated by Wilcoxon signed-rank test, between treatments *T3-RegionalSeal* and *T4-EU&Reg* were not significant in any of the rounds.

Table 7: Percentage of successfully funded projects in all treatments

Round	1	2	3	4	All
Treatment					
T1-Single Pub	25,00	33,33	50,00	41,67	58,33
T2-EUSeal	5,88	17,65	11,76	17,65	17,65
T3-RegionalSeal	17,65	35,29	41,18	23,53	29,41
T3-Eu&Regional	6,67	20,00	26,67	26,67	26,67
Differences					
T1-Single T2-EUSeal	19,1 ***	15,7 ***	38,2 ***	24,0 ***	40,7 ***
T1-Single T3-RegioSeal	7,4 **	-1,9 **	8,82	18,1 **	28,9***
T1-Single T4-EU&Reg	18,3 ***	13,3 ***	23,3 ***	15,0 **	31,6 ***
T2-EUSeal T3-RegioSeal	-11,70	-17,6 **	-29,4 **	-5,88	-11,7 **
T2-EUSeal T4-EU&Reg	-0,78	-2,35	-14,9 **	-9,02	-9,02
T3-RegSeal T4-EU&Reg	10,98	15,29	14,51	-3,14	2,75

Treatment *T1-SinglePub* has the highest percentage of successful treatments. This is quite obvious, as participants faced no coordination problem in this treatment. They only had to decide whether to invest in the private account or the public good. Differences between treatment *T1-SinglePub* and treatments *T2-EUSeal*/*T3-RegionalSeal* /*T4-EU&Reg* are highly significant ($p < 0.01$). This is somewhat intuitive, as the treatments with four public goods face a coordination problem. This coordination problem is solved best in treatment *T3-RegionalSeal*. The percentage of successful projects in treatment *T2-EUSeal* is significantly ($p < 0.05$) lower than the percentage of successful projects in treatment *T3-RegionalSeal*. Treatment *T4-EU&Reg* shows no significant difference in percentage of successfully funded problems compared to treatment *T3-RegionalSeal*. Featuring can help to reduce the coordination problem caused by multiple public goods, but cannot eliminate the coordination problem. The regional seal is more

⁶ The number of possible projects per round is calculated as follows: Four participants form one group. Each group's endowment which is big enough do successfully found one project. Therefore, the total number of participants in each treatment divided by four equals the total number of fundable projects.

efficient in solving the coordination problem than the sustainable seal. Figure 3 again highlights this relation.

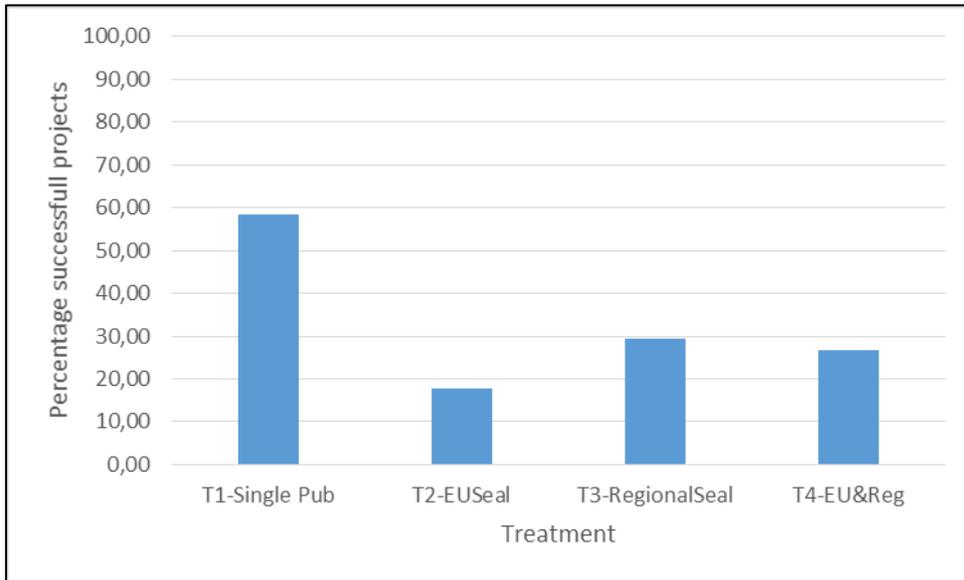


Figure 3: Percentage of successfully funded projects

Influence of gender and risk attitude

In all analyses of means, mean contribution, mean ratio of contribution and budget, and mean percentage of successful projects, we compared whether gender has an influence on the decisions. Differences were analyzed with Wilcoxon-Mann-Whitney rank sum tests and the usage of a gender dummy. No significant influences of gender were detected (see Appendix D for mean contribution by gender).

In the same way, the influence of risk attitude was examined. Again, a dummy for risk aversion or risk loving behavior was used in a Wilcoxon-Mann-Whitney rank sum tests. Results showed no significance. Additionally, we used a logistic regression with the risk dummy as independent variable and mean contribution to the private account and the salient public good as independent variable. No interdependence could be shown.

4.5 Discussion

Sustainable features make a project more salient and help to overcome the coordination problem. The public goods made salient with either the regional or the sustainable EU-feature received on average more contribution than the non-salient options. This supports our hypothesis *H1*. However, we have to reject our hypothesis *H2*. The regional feature can help solving a coordination problem in sustainable crowdfunding setting more efficiently than the sustainable feature from the European Union. There is no significant difference between mean contributions to the private account and either the single public good within treatments *T1-SinglePub* or the salient public good within treatment *T3-RegionalSeal*. This is, with

regards to mean contribution, in contrast to the findings of Corazzini et al. (2015): they hypothesized that mean contribution to the salient public good would be the same as mean contribution to the single public good⁷. They had to reject this hypothesis. However, they compared mean contributions to the public good between each treatment. We compared mean contribution to the private account with mean contribution to the single public good or the salient public good within each treatment. We did this for the following reason: if one of the public goods or the single public good appears to be a bad choice, participants do not contribute any token. They do not experience a coordination effect. Instead, they contribute their whole endowment to the private account. If mean contribution to the single public good or one salient public good is at least as high as mean contribution to the private account, the public good is at least considered equal to the private account. Hence, participants experience a positive coordination effect. Following this, we assume the regional feature to have a coordination effect as good as only a single public good.

Although the coordination effect in treatment *T3-RegionalSeal* seems to be as good as in treatment *T1-SinglePub*, the percentage of successfully funded projects is by far higher in treatment *T1-SinglePub* ($p < 0.01$). As already mentioned, the difference between private account and either the single public good within treatments *T1-SinglePub* or the salient public good within treatment *T3-RegionalSeal* is not significantly different. However, the absolute amounts of contribution are different. They are higher in treatment *T1-SinglePub*. This is also somewhat intuitive. In treatment *T1-SinglePub* exist only two alternatives: private account and single public good. In all other treatments there are five: private account, three non-salient public goods and one salient public good. As contributions to the non-salient public goods are small but nevertheless relevant, they could be considered as noise for the signal of the seal. Participants invested also in the non-salient public goods. As a result, the ratio of mean contribution and budget is smaller for the salient public goods than for the single public good in treatment *T1-SinglePub*. This leads to a reduced percentage of successfully funded projects.

If we replace the regional feature in treatment *T3-RegionalSeal* with the sustainable feature in treatment *T2-EUSeal* the coordination effect does not appear. Quite the opposite is the case. The difference between mean contributions to the private account and the salient public good (with sustainable feature) within treatment *T2-EUSeal* is highly significant. The same holds true if we compare mean contributions to the salient public goods between treatments *T2-EUSeal* and *T3-RegionalSeal*: contribution is significantly ($p < 0.01$) higher in treatment *T3-RegionalSeal*. Lastly, the same effect appears in treatment *T4-EU&Reg*: mean contribution to the public good with regional feature is highly significant bigger than mean contribution to the public good with sustainable feature.

One possible explanation could be, that participants felt some distrust in the sustainable feature as it is an only slightly modified official label of the European Union. Belleflamme et al. (2015) found that, quite

⁷ They also employed a threshold public good experiment. Their reference treatment was the same as described in section 3.1. In one treatment they had four public goods, where one was randomly made salient by the computer.

intuitively, distrust in a project negatively affects willingness to invest. The regional feature is perceived as more trustworthy, and hence is more supported. Meyskens and Bird (2015) found that when crowdfunding social ventures, funders are driven by the value creation goals of the social venture. One could argue that participants interpreted the goals of regional feature to be regional and home related. These appeared to be trustworthy goals. By contrast, the participants were not sure about how to interpret the goals of the EU feature and hence mistrusted it. This would be in line with the findings of Agrawal (2015). Funders in an early stage of the crowdfunding project are often local funders as they feel somewhat related to the project. When evaluating a project they value local cues more than the amount accumulated so far. In line with that, Allison (2014) found that funders prefer projects that frame themselves as opportunity to help others compared to a business opportunity. A regional feature is believed to have a more helping influence than an EU feature. The projects in our experiment contain no information concerning location. However, one could argue that the description of the label as regional has a similar effect as if the project was an actual local project. The regional feature would work as local cue on the funders. Lin et al. (2015) found that highlighting the local cue in a crowdfunding project by making it salient leads to an increase in funding. The regional feature indeed highlights the local cue and hence could have led to increased contribution compared to the sustainable feature.

As the regional feature seems to be perceived as trustworthy, it is not only suitable for solving the coordination problem but could serve additional purpose. Belleflamme et al. (2015) states a need for certification. The crowdfunding platforms could certify projects, however have a conflict of interests as they want many projects on the one hand but also only good projects on the other hand. This conflict also could lead to mistrust of funders in a certification system of the platform. As a regional feature can solve the coordination problem and seems to be trustworthy, it could provide certification. Guerini and Quas (2016) highlight the importance of governmental intervention through direct financial support. They could show the direct governmental investment works as certification for private venture capitalists. Hence, a regional feature as a direct non-financial support can be assumed to have a similar effect.

4.6 Limitations

Two main limitations have to be enlisted: one is, that the present results are based on a laboratory experiment among students although the situation on a crowdfunding website should be depicted. Students are for sure among funders on crowdfunding websites, but barely do they represent the majority of funders. Furthermore, our described setting was a very rudimentary one. Crowdfunding websites contain a lot more and also different information than our setting does. The second limitation is, that the design of the two seals could have influenced the participants. Although they were intended to be as neutral as possible, yet they differed in their color. Therefore, preferences for either white and green or yellow and green could have biased the participants.

4.7 Conclusion

The main objective of this laboratory experiment is to evaluate the coordination effect of a regional and a sustainable third party feature. We did this in the laboratory using a multiple threshold public good experiment. We could show that featuring one option in a multiple public good setting as regional has a similar coordination effect as a single public good in a setting with only one public good. This holds true when comparing differences in contributions to a private account and a salient public good within the treatment with differences in contributions to a private account and a single public good within a reference treatment. Featuring an option as sustainable does not support this finding as it has no coordination effect.

In addition, increasing number of available public goods decreases mean contribution to public goods and increases contribution to private account. The reduction of contribution is at the cost of contribution to the non-salient public goods. Except of the first round participants allocated their endowment exclusively to either the salient public good or the private account.

The results lead to the following implications: a third party label can be a valuable support for a crowdfunding project. Especially, when multiple projects are hardly distinguishable on their mere characteristics. Institutions like the European Union can use a label as a relatively effortless means of sustainable entrepreneurship support. In order to receive grants for setting up business, proof of concept by an independent consultant already is required. Offering such a certification for funders is an opportunity for the European Union to generate impact in the field of sustainable entrepreneurship and innovation at relatively small costs. However, if institutions decide to support crowdfunding projects, they carefully have to evaluate whether to use a more institutional or regional label. With regards to the practical implications, two questions for future research arise: First, is the negative coordination effect of the institutional (i.e. the sustainable) label really due to its institutional background or is this finding a manifestation of distrust in the institution? Second, where is the line between regional and institutional? Is a label of the German government a regional seal in context of the European Union or an institutional label.

5. Summary

A crucial step in user sustainable entrepreneurship is the formation and financing of a company. To analyze the influence of crowdfunding on user sustainable entrepreneurship, we applied a twofold approach and used interviews and a laboratory experiment for gaining data.

We conducted interviews with founders of sustainable ventures in order to get an insight in founder's motivation for starting a crowdfunding campaign. Not surprising, founders choose crowdfunding in order to raise money for their venture. But raising funds through the crowd offers them some more advantages. First, the risk associated with a crowdfunding campaign is by far smaller than the risk associated with taking a bank loan. If the project fails, the crowdfunding campaign does not go along with further liabilities. By contrast, the bank loan still has the liability of paying interest rates. The abstinence of future liabilities,

and hence independence is a further motivation for crowdfunding. In addition, receiving funding through crowdfunding is, at least as perceived by funders, easier compared to receiving funding from banks. One explanation could be, that the crowd is more willing to support new or unconventional ideas. A further reason and, at least in our research, the main motivation for starting a crowdfunding campaign was the marketing reason. Crowdfunding addresses through the crowdfunding platforms a more or less numerous audience. This audience can benefit the founder in a direct way by giving support and feedback. In addition, the crowd can also support the project indirectly. This happens by talking about the projects, sharing it on social media or recommending projects to one's peer.

Based on that finding, we designed our laboratory experiment with the focus on how policymakers can support founders. As a crowdfunding campaign offers various benefits for founders, as just described, they also attract a considerable number of projects. Quite often, different projects have the same focus. For funders, the evaluation of projects worth to support is difficult. As a consequence, they refrain from supporting a project. However, if a project is easy to identify as promising, they usually receive sufficient funding. Hence, we evaluated whether an institutional feature can help overcoming the coordination problem that arises with numerous similar or identical projects. Highlighting a project with a regional feature had a similar beneficial effect, with regards to the amount invested and number of successful projects, as if there was only one project. An official EU feature however, had a less beneficial effect. This became especially obvious when comparing the regional with the EU feature.

In a nutshell, crowdfunding is a valuable approach for user innovators and sustainable entrepreneurs when starting a venture. One, as a means of finance, two, as a marketing tool. Crowdfunding as a marketing tool can be further enhanced by highlighting a project with a regional feature. Therefore, two recommendations for policymakers can be stated: Crowdfunding should be promoted among sustainable entrepreneurs as a valuable means for financing a sustainable idea or project. Especially promising entrepreneurs should be supported in their crowdfunding campaign with e.g. a regional feature.

6. Outlook

Funding and marketing only work if the crowd is actively taking part. However, individuals, as part of the crowd often are not able or not willing to extensively evaluate the quality of a project. Instead, they rely on easy to perceive signals. One is the above mentioned highlighting a project with a regional feature. Another option is to follow the "wisdom of the crowd". This behavior is quite common in investment decisions. Fernandez et al. (2011) found, that the bigger the perceived uncertainty, the more investors doubt their own information. As a consequence, they rely on decisions made by others and copy them. Once some funders supported a crowdfunding campaign in an early stage, other funders follow them. Through this self-enforcing pattern, projects can reach their funding goal in considerable speed (Colombo et al. 2015). Based on the present findings, one can argue that in sustainable crowdfunding, especially trust is relevant. Moss et al. (2015) show that projects which use words that signal autonomy are more likely to receive funding. Trust, built upon the autonomy signaling wording could outweigh uncertainty.

We plan on conducting a laboratory experiment to evaluate if funders in sustainable setting follow the “wisdom of the crowd” during their investment decisions. Furthermore, we want to analyze the strength of that signal compared to other counter-rotating signals.

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Appendix

A: Input screen for treatment T2-EUSeal

Die Unternehmen Viereck, Kreis, Dreieck und Trapez vertreiben unverarbeitete und verarbeitete Roh-Ware, ausschließlich aus biologischem Anbau aus nachhaltiger Landwirtschaft, vegan, Gluten frei und frei von Zuckerzusätzen. Das gesamte Geschäftsmodell basiert auf der Idee einer „fairen Beziehung“ zwischen Unternehmen, Mitarbeitern, Produzenten und Kunden.

Ihr Guthaben: 55 Token

Ihr Konto

Ihr Beitrag: _____

Viereck

Schwellenwert: 132

Bonus: 30

Ihr Beitrag: _____

Kreis

Schwellenwert: 132

Bonus: 30

Ihr Beitrag: _____

Dreieck

Schwellenwert: 132

Bonus: 30

Ihr Beitrag: _____



Trapez

Schwellenwert: 132

Bonus: 30

Ihr Beitrag: _____

B: Descriptions of project types

Farmer market

Die Unternehmen Viereck, Kreis, Trapez und Dreieck betreiben jeweils Online-Plattformen. Die Online-Plattformen dienen als Marktplatz für lokal erzeugte Lebensmittel. Durch den direkten Kontakt zwischen Erzeuger und Konsument wird zum einen sichergestellt, dass der Erzeuger einen angemessenen Preis erzielt, zum anderen, dass keine Überproduktion an Lebensmitteln entsteht und somit keine Lebensmittel verschwendet werden.

Energy supplier

Die Unternehmen Trapez, Kreis, Viereck und Dreieck sind Energielieferanten. Sie stellen nachweislich grüne Energie zur Verfügung in dem sie Energie von lokalen Energieerzeugern beziehen und weitervertreiben. Durch den lokalen Bezug der Energie kann sichergestellt werden, dass die Energieerzeugung CO₂-neutral erfolgt.

Energy company

Die Unternehmen Dreieck, Viereck, Trapez und Kreis sind Energieanbieter. Sie bieten grüne Energie aus entweder 100% Wasserkraft, 100% Gas oder einem Mix aus beiden an. Für jeden Kunden unterstützen Sie eine Familie in Entwicklungsländer, damit diese nachhaltig Energie selbst erzeugen kann.

C: Payment screen after one round

Runde 1 von 4 {zählt die gespielten Runden}
 Ergebnisse von Runde {aktuelle Runde}

Insgesamt haben Sie in dieser Runde {X} Punkte als Rendite erhalten. Unten sind Ihre Investitionsentscheidungen Ihrer Gruppe sowie die einzelnen Renditen Ihrer Entscheidungen aufgeführt.

Ihr Konto	Ihr Beitrag:	Ihre Auszahlung:
Viereck	Schwellenwert: 132 Ihr Beitrag: Beitrag Ihrer Gruppe: Sie erhalten/ nicht den Bonus Ihre Auszahlung:	
Kreis	Schwellenwert: 132 Ihr Beitrag: Beitrag Ihrer Gruppe: Sie erhalten/ nicht den Bonus Ihre Auszahlung:	
Dreieck	Schwellenwert: 132 Ihr Beitrag: Beitrag Ihrer Gruppe: Sie erhalten/ nicht den Bonus Ihre Auszahlung:	
Trapez	Schwellenwert: 132 Ihr Beitrag: Beitrag Ihrer Gruppe: Sie erhalten/ nicht den Bonus Ihre Auszahlung:	

D: Mean contributions by gender to private account and salient public good for all treatments

Treatments	Private Acc.		Single Public Good		Pub.Good Sustainable Seal		Pub.Good Regional Seal	
	male	female	male	female	male	female	male	female
T1-Single Pub	33,41	21,17	21,59	33,83				
Difference	12,242 **	12,242 **	12,241 **	12,241 **				
T2-EUSeal	27,42	31,35			15,16	10,55		
Difference	3,93	3,93			4,607*	4,607*		
T3-RegionalSeal	24,45	21,65					17,83	20,56
Difference	2,80	2,80					2,73	2,73
T4-EU&Reg	25,14	30,88			18,31	13,18	7,04	5,38
Difference	5,74	5,74			5,13	5,13	1,67	1,67