

Reward-based Crowdfunding: successful signaling from an entrepreneur

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Abstract

This paper examines the impact of signaling in reward-based crowdfunding systems from the project initiators' perspective. In order to reduce the information gap between the project initiator and the crowd, different signals can be applied in order to increase the project success. The paper identifies opportunities and challenges of reward-based crowdfunding systems. As the major advantages of reward-based crowdfunding factors such as the low costs in terms of communication, search as well as transaction costs, could be identified.

Keywords

Signaling, Quality Signals, reward-based crowdfunding, crowdsourcing, community, crowdfunding systems, applied intelligent systems

1. Introduction

Financial crowdfunding was developed in recent years and gained high importance in the financial market since the economic crisis in 2008. The first crowdfunding platform appeared in 2001 in the US with the purpose to support musicians [1]. It was also the date when online platforms such as Indiegogo and Kickstarter were founded [2]. The crowdfunding market is still growing, and due to the fact that it is an online platform, it has global reach. Crowdfunding is a relevant instrument for entrepreneurs to implement their business idea into a project plan and gain financial support of the crowd. With the global reach of crowdsourcing this can encompass supporters from all over the world. Various platforms provide the opportunity to pitch entrepreneurial ideas, and thus give start-up firms the chance to establish a well thought through business idea and succeed not only temporarily but also in the long run. Opportunities as well as challenges come along with this concept and will be discussed in the contribution at hand. The most common form of crowdfunding is represented by reward-based crowdfunding, which received a great deal of attention in recent years and which has shown a broader economic effect as it enables the implementation of business ideas which in turn generate indirect benefit in terms of added value and employment. For this reason, this type of crowdfunding has been selected for this analysis.

The remainder of this paper is organized as follows: Section 2 pinpoints types of crowdfunding systems and actors. Section 3 evaluates signals from the project initiator towards the crowd. Section 4 outlines a SWOT analysis in applied systems of reward-based crowdfunding for both, project initiators and platforms. Finally, Section 5 summarizes the major findings.

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2. Crowdfunding Systems

2.1. Crowdfunding Systems and actors

Starting a business always includes the critical step of financing. Thus, in the early stages the form of financing was implemented through equity or debt, due to the fact that banks normally just loan money to companies who can show significant cash flows. This is why SMEs have only limited access to financial resources borrowed by friends, family, foundations and angel investors, or venture capital. In the early phase of a venture development the initiator normally bears the entire risk of the project by having a self-funded project or personal lines of credit. Afterwards, after a project has been established, there might be friends and family stepping in, to support the project and to grow additional capital. These phases will continue as long as the project reaches further goals and qualifies for a venture capital investment or a debt capital. Crowdfunding on the other side, aims at the earliest stage in a business lifecycle, to raise awareness and limit the costs. Moreover, the venture visibility will be increased. Even more, the communication channels of crowdfunding are open to the public whereas the traditional venture capitals or angel investors are based on confidentiality or are proprietary [3].

The concept of crowdfunding has been developed as a result of the commercialization of the modern internet [2]. The term *crowdfunding* can be used to describe a form of fundraising, which usually is made available through the internet, where a large number of people bundle individual contributions to support a specific aim. Moreover, crowdfunding or a venture is a financial concept where individuals instead of professional investors financing a project. This also includes the fact, that there is no intermediary between the entrepreneurs and the investors [3]. When financing a project crowdfunding provides a funding alternative to early-stage-projects which bridge a funding gap of typically small, innovative firms. Four different types of crowdfunding are to be distinguished, i.e., reward-based crowdfunding, donation-based crowdfunding, loan-based crowdfunding as well as equity crowdfunding [4].

In the various concepts of crowdfunding different actors and responsibilities, depending on the model used, can be identified. Three major roles appear in the crowdfunding concept: *(i)* the crowd consisting of numerous crowdsources, who represent potential funders, *(ii)* the entrepreneurs who initiate a crowdfunding project or a campaign conceptionally, and *(iii)* the platform, which acts as an intermediary between the crowd and the entrepreneurs, and provides and maintains their interface. In more detail, the crowd can be described as a large, usually anonymous group of people, which can be addressed by an open call for the purpose to fund. Friends and family of the entrepreneur can also be added to the crowd as long as they invest through a crowdfunding platform. The platform can be seen as an intermediary for the purpose to transact financial resources from contributors to campaign initiators. The virtual platforms almost all seek the same objective to pool relatively moderate contribution from a large number of the crowd to finance large-scale projects. Platforms earn money through a percentage-based commission or a fixed fee offered [3]. The third actor, the campaign initiator, can be explained as someone who has an entrepreneurial idea, but does not have the financial resources to realize the project and therefore pitches the idea in order to get the financial support [3]. Figure 1 shows the three actors and their communication relations. To emphasize the focus of our analysis, two entities and their communication paths are highlighted, i.e., the entrepreneur and the crowd.

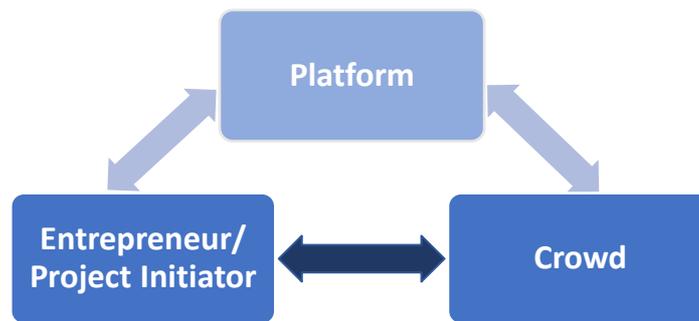


Figure 1: Actors and their communication paths in crowdfunding systems

2.2. Types of Crowdfunding Systems

We can distinguish between different types of crowdfunding systems, i.e., equity-based crowdfunding, donation-based crowdfunding, lending-based crowdfunding as well as reward-based crowdfunding. In the following, these types of crowdfunding will be explained in more detail.

Equity-based crowdfunding can be explained as a crowdfunding type, in which funders receive in exchange a type of equity or equity-like arrangements for profit-sharing of the projects they fund. The main difference between the more traditional capital-raising and equity crowdfunding is the process itself. Entrepreneurs make an open tender on a crowdfunding platform and the investors make their decision based on the information the entrepreneurs offer. Furthermore, the platform simplifies the transaction by using a standardized investment contract to settle the donation. Usually funding through equity crowdfunding is much smaller in start-up firms than for venture capital or angel investments. Moreover, the term equity-based crowdfunding can be explained as a process where entrepreneurs sell an amount of equity- or bond-like shares in a firm, to a group of investors. This process will be supported through the use of open calls for funding on platforms, which are internet-based [5].

Donation-based crowdfunding can be explained as a type of crowdfunding, which is used for online fundraising through a crowdfunding platform or an NGO. The contribution of the funders will be in exchange of social rewards or acknowledgements. The concept of donation-based crowdfunding is based on microfinance and social-fundraising crowdsourcing concept. There can be two general concepts of donation-based crowdfunding. First, the one which collects nonequity capital and does not assure financial returns. And secondly, the category, where people raise funds using financial instruments like issuing shares or using debts as a form of funding. It can be stated that donation is a type of perception, which can be more profitable and valuable than others. Nevertheless, a binding of donations to sales can lead to a more self-serving attribution and this can lead to a lower intrinsic value for stakeholders. As a result, individuals and organizations would not expect a return from their donation. However, there can be gifts in reward for small donations for example personalized gifts, or publicized recognition in exchange for a larger fund [6].

The so-called lending-based crowdfunding is also known as loan-based crowdfunding or peer-to-peer lending. This concept is used to lend money of customers in exchange for interest payments and repayment of capital over a period of time. A lending-based platform can be described as one, where individuals or businesses lending money from a number of individual lenders where each one lends a small amount of it. Thus, it is a platform where entrepreneurs and funders can borrow money to each other, most of the times through unsecured personal loans [7]. However, there are strict requirements for borrowers, because they need to have an A or A+ credit rating to be ranked under the “prime” or “super-prime” borrower category. And even more so, the average rejection rate is still very high and nine out of ten loan applications are rejected. But as a result, the failure quota is very low with less than

1% [7]. The customers, who borrow money through the lending-based crowdfunding concept mostly like to expand and/ or grow capital and working capital. Benefits of this concept through the platforms are mostly due to the combination of speed and ease of use. Thus, 91% of the borrowers see lending-based crowdfunding as an easier way to get funded in comparison to the traditional channels like a bank and therefore decide on this financial concept [7].

Among those four crowdfunding forms: equity-based crowdfunding, donation-based crowdfunding, lending-based crowdfunding and reward-based crowdfunding, the latter one is the most considered one nowadays [8]. This concept can be understood as one, where entrepreneurs promote individuals to fund their projects in exchange for rewards according to the level of funding provided. In most cases, the rewards are in exchange of the product which is commercialized by the entrepreneur when the project is successful [9]. These products in return can be products, services or thank you letters from the entrepreneurs [5]. To give another example from the music industry, music artists acquire money on crowdfunding platforms from their fans to produce albums. The investors of the songs are getting rewarded by getting access to the latest album immediately after the release.

There are two different types in which reward-based crowdfunding can be divided: “all or nothing”, and “keep it all.” First, the concept of all or nothing will be discussed. The All or nothing concept describes the case: “where entrepreneurial firm sets a fundraising goal and keeps nothing unless the goal is achieved” [10]. The usage of this type of crowdfunding has empirical evidence and can be described as a type where it gives major signal to the crowd when the initiator will not realize the project in case not enough money is raised. Thus, the signal can reduce risk to the crowd and on the other side it helps the initiator to set higher aims, raise more money and it will be more likely to achieve the considered goal [10]. The keep it all form of reward-based crowdfunding is a concept where the entrepreneur sets a fundraising goal and keeps the amount raised without considering whether they achieve their project goals or not. In this case, the projects might be less successful because the crowd bears the risk that an initiator takes the risk of starting a project which is underfunded and therefore more likely to fail. Consequently, this concept is more feasible for projects, which are scalable even with a partial funding [10].

3. Signals from the Project Initiator towards the Crowd

The following chapter is going to provide insights into the already existing literature and research of different signals in reward-based crowdfunding, which project initiators send to the crowd in order to achieve a successful campaign. These signals can be categorized according to research theory into different areas such as the signals through the intermediary, quality signals, communication signals, reward signals and signals with respect to social and sustainability focus. In order to limit the scope and scale of the research available, the focus of this study will be on the project initiators’ perspective towards the crowd only. The Chapter evaluates five main signals based on a literature review: signals through the intermediary, quality, communication, rewards, social and sustainability.

3.1 Signals through the Intermediary

When using crowdfunding as a form of financing, the platform functions as intermediary as it connects the fundraisers with the funders on a platform. Moreover, the entrepreneur builds a relationship with the crowd which contributes an amount of money to a specific project on the platform. Therefore, it can be stated that a crowdfunding platform creates positive cross-group effects between the entrepreneur and the crowd [1].

A. Test Market

Moreover, the crowdfunding campaign can be seen as an ultimate test market and consequently can be used as a proof of concept. Basically, a product prototype will be launched and adapted according to the feedback of the target group. The feedback can concern all areas like product design, production, pricing, customization etc. and helps the entrepreneur to improve the product or processes and thus increase the chances of success for the product to be launched to a wider public after the end of the crowdfunding campaign [9].

B. Team Size and Gender success

Additionally, the team size of the founding team as well as the business idea functions as a signal. This can be explained by the fact that the organizational legitimacy can be established when making additional information of the organization and also the founder team of the enterprise available. Moreover, the founding team even can be considered as a critical parameter in the decision-making process of the traditional venture capital investment. The funders in reward-based crowdfunding have their focus on the team size as well as on the judgement of the business concept. In the study of Frydych et al. [11] the data state that the projects with a pair and team composition show a far higher success rate in comparison to projects with individual entrepreneurs. Furthermore, the success rate of females in projects is higher than for males [11].

C. Number of Funders

The platform itself creates positive cross-group effects among funders and the project initiators due to the fact that the entrepreneurs have a higher preference for crowdfunding platforms with a greater amount of funders because this raises the chances and estimated conditions for the campaign. What is more, it also can be seen as a positive effect in both directions. There is another positive impact when entrepreneurs, demonstrating their products, use the campaign as a form of market research or attract entrepreneurs who offer complementary goods. Therefore, the larger the group of consumers or funders, the larger the effect is. As a consequence, project initiators and funders can both benefit from the results. Finally, a high number of funders on a platform represent basically a high potential of donations for the fundraisers, and a high number of projects on a platform offer greater choice for the funders. So, this can represent a win-win situation [1].

D. Cross-Selling

In order to achieve a successful campaign, it is helpful to promote a crowdfunding campaign on the platform and in the public. This can help the entrepreneur to reach an additional demand outside the platform. There is also a chance to generate an added value by developing complementary services, an upgraded version of the product which means attracting further human capital. On the funding side, it might also help to attract funders and potential banks in order to receive extended fundings, when a successful campaign is already accomplished. This Marketing strategy adds value for both sides, the entrepreneur and the funder. More precisely, due to the promotion of a running campaign in- and outside the platform, this might help to generate alternative fundings [1].

E. Target Group Fit

Moreover, a platform can be considered as a Marketing platform, which helps to attract the right target group for a specific campaign. Most platforms show specifics concerning the kind of projects and entrepreneurs they attract. This also impacts the kind of funders who will engage then with the platform or the projects concerned. If the nature of the platform projects match the needs of the funders, consequently the right target group can be attracted. In case of Kickstarter, the platform can be seen as a Marketing tool as it can attract the right audience when introducing for example a young company with technology background. This attraction includes potential supporters for the project as well as start-up firms [1].

F. Regional Focus

Despite the achievements of advanced web applications connecting the world globally, most entrepreneurs consider their home market as the base for starting their business. This can be due to culture, language, as this is their home turf, where they have most of their knowledge and insights. In addition, the local focus helps to compensate the costs of gathering information and controlling the progress and production. Moreover, when looking on the funders side, they also tend to support campaigns that are geographically nearby. Beyond that, early fundings received by local investors such as family and friends, can establish the access to additional contributions by supporters who are locally further away [1]. In addition, it can be stated that family and friends play an important role due to the fact that their part of donations make about approximately 30% of the overall fundings for start-ups. And it can also be said that it is easier for fundraisers to get contributions from family and friends without

having a track record. The fundraisers normally can facilitate the capital raising from family and friends as they usually know the project initiators and therefore trust the project. As a consequence, the asymmetric information problem can be reduced when considering family and friends as a form of financing [2]. Entrepreneurs still prefer to do the proof of concept in their narrower and more known environment to use the learnings to improve the product and processes. Once the early stages are overcome, some of the entrepreneurs look at the broader appeal of their products and services [1].

G. All-Or-Nothing vs. Keep-It-All

When using reward-based crowdfunding as a form of financing, funders might have the choice between a more fixed funding, the All-Or-Nothing concept or a more flexible funding concept which is called the Keep-It-All model. The study of Cumming et al. [10] provides large evidence on the point of view that the choice of entrepreneurs for the All-Or-Nothing concept functions as a reliably signal towards the crowd. Thus, the entrepreneurs do not implement the project unless a sufficient funding amount is raised. Consequently, the funders estimate the project as less risky, which helps the entrepreneurs to be more successful [1]. In addition, the usage of the All-Or-Nothing concept also helps to reduce the issue of the moral hazard problem. Furthermore, it can be stated that non-profit organizations tend to use the flexible funding and therefore the so-called Keep-It-All model as it offers more benefits to these organizations [3].

3.2 Quality Signals

In order to rate the success in reward-based crowdfunding, quality signals play a major role. However, in crowdfunding it is not even clear how entrepreneurs showcase their preparation or establish a network in the virtual setting. There are concerns that the quality of a project might not be as important or transparent to contributors, as it is in a more traditional investment setting [12]. However as young start-ups are hardly known and cannot be uncovered in detail, quality signals seem to be even more important as far as funding stimuli are concerned. There are empirical findings in reward based crowdfunding, that confirm the thesis, that the success of a project can be led back to the basic quality of the project, with higher quality projects delivering stronger signals to achieve higher funding [3]. In the case of crowdfunding reacting to well-known quality signals in the same manner as more traditional capital investors means it is possible to forecast the output of a project as well as choosing the adequate project to support. As a consequence, one can recognize that crowdfunders reacting to quality signals, either assess the future success of a project or their decision-making relies on personal and unreflecting reasons to fund [12].

In the following section specific quality criteria will be described. These criteria are preparation time, patent, length of the campaign, project description and updates.

A. Preparation Time

The preparation time is a major part of every project initiator when considering a crowdfunding campaign in reward-based crowdfunding and needs to be developed before the main funding phase. It can be presumed that a longer time of preparation has an impact on the development of a crowdfunding campaign and it also can be related to higher costs. The project originator can create the project page on the crowdfunding platform at any time before the campaign starts. It can be only made visible to the originator and individuals who are invited for editing [13]. In order to launch a successful crowdfunding campaign on the platform, it is necessary to continuously improve the campaign by checking and improving the quality. Constant improvement functions as a signal because this assumes that the campaign was tested and developed for a longer period of time by the originator. As a consequence, it can be said that a longer preparation time signals high efforts in preparation and determination of the originator and therefore increases the chance of success. The preparation time can also be identified in the quality of the project website and thus also works as an indirect indicator of the preparation time. So it can be said that a longer time period of preparation increases the chance of a successful reward-based crowdfunding campaign [13].

B. Patent

As signals are able to reduce information asymmetry, patents also can be seen as a significant signal of the firms' fundamental quality towards potential investors in order to reduce the information

asymmetry issue. Patents are such a recognizable signal. It shows that the company is able to transfer the results of research into new and additional knowledge that helps to create added value. Furthermore, patents close the information gap between investors and enterprises which look for potential funding. It shows clearly that the company is able to use the different kind of knowledge and know-how to create innovative and usable technologies. Additionally, patents are a way of protecting company technology against competitors. It is also a means to increase revenues from research and development by creating a monopoly in the market. In addition to that, patents are used for licensing agreements or sales deals which directly creates additional revenue for the firm. Overall, patents play a crucial role in securing a competitive market position and at the same time deliver additional revenue [14]. However, despite the fact that the finance literature shows evidence and describes the positive role of patents when sourcing capital from external investors in reward-based crowdfunding, a result in the study of Meoli et al. [14] assumes, that patents can send out negative signals when applied in reward-based crowdfunding. This study underpins the assumption by using the platform Kickstarter, where projects with patents have a lower probability to achieve fundings from the campaign. Moreover, the study states that projects with the use of patents have larger capital costs, tend to bear more risk, have a higher complexity and are more elaborated in terms of technical knowledge. Additionally, it can also be mentioned, that the projects without patents do not have an advantage over the projects which signal a patent. What is more, patents with a pending status show the highest negative impact on the likelihood of a successful campaign. In the end, a general observation needs to be added. In the case of reward-based crowdfunding the crowd needs to be considered as it behaves more like a final consumer. Therefore, the patent does not play a major role in comparison to other crowdfunding target groups, like professional investors. For them, signals like patents are important drivers for their investment decisions [14].

C. Duration of the Campaign

The duration of the campaign relates to the time period in which an entrepreneur collects financial resources from the crowd. As an example, Kickstarter recommends a time period of approximately 30 days. A longer time span may be interpreted from the crowd as a signal of insufficient confidence from the entrepreneurs to reach enough contributions and a lack of belief in their own business idea. Besides that, a longer duration of a campaign may indicate that the entrepreneur has not entirely completed initial steps and is not prepared for a fast implementation, and therefore the process of the campaign cannot be quickly implemented [13]. As a consequence, this issue might result in a reduction of the crowds' confidence towards the entrepreneur to reach a successful campaign in the permitted time and quality of the project. Moreover, another factor which speaks against a longer campaign period is, that it is possible that other crowdfunding campaigns with similar features are launched at the same time. And as a direct consequence, the crowd might withdraw their contributions and support a different crowdfunding project. Above that, it can be said that in reward-based crowdfunding there is a specific funding dynamic observable which leads to the fact that usually at the beginning of a campaign, the interest is at the peak and decreases over time and thus, the investments drop. So this can lead to the assumption that a longer campaign duration is connected to a lower chance of success when applying a campaign of reward-based crowdfunding [13].

D. Project Description

Between the entrepreneur and the crowd, the asymmetric information issue can occur. This is the case because the crowd needs to trust the information offered by the project originator. To overcome this issue, being able to provide a project description with detailed information on the project, can be helpful and as a consequence can reduce the information gap [13]. When looking at a traditional business plan from venture literature, it can be said that it is an important key factor for a potential success in the venture environment. When comparing it with the reward-based crowdfunding setting, project descriptions can be seen as traditional business plans with respect to content and function. Certainly, the project description is one of the key information sources for the crowd in order to judge on a project and come to a funding decision. The early phase of a project development usually implies unproven technologies, unfinished products and also services [15]. As a result, the verification of a new project and the quality concerned is not tangible. However, the system of reward-based crowdfunding works in the way, that the crowd orders the rewards, which are normally the still to be developed products, and which are promised for future delivery. So, the crowd typically has no deeper insights and control of the

development phase and there is no other information available on the product such as customer reviews in order to judge on the product as well as the trustworthiness of an entrepreneur. Nevertheless, the project description is one tool to connect and attract potential contributors as it reduces the information asymmetry particularly before the project launch. It shows evidence that content and project description, which include the length, readability and also objectivity and the character trait of an entrepreneur, is related to the funding success. What is more, a project description which is formally written, signals the preparedness and also the professional attitude of the project initiator and therefore increases the probability of a campaign success in reward-based crowdfunding [15]. Therefore, even typos in the description are a sign of lower quality and not enough dedication to the project and hence lower the chances of success [12].

E. Updates on the Project

A key factor for the communication between the entrepreneur and the funders are updates and blog posts on the reward-based crowdfunding platform during and at the end of a crowdfunding campaign. These updates happen directly through sending emails to the funders as well as displaying blog posts on the project website. These updates mostly include a call to action, asking for fundings. Only funders can actively visit the website and see project updates, so they are the first to recognize any update. Moreover, updates can work as an indirect advertising tool as the existing funders can further spread the updates and thus enhance the number of contributors. In general, the updates and the advertising activities at the campaign end play an important role as they will be linked to a higher number of fundings and new funders and this happens mostly at the end of the funding campaign [3]. Moreover, project updates, given from the entrepreneur, work in the sense of a security towards the crowd because it shows that the entrepreneur cares about the funders [16]. As a consequence, it can be stated that the positive impact of project updates implies that existing funders are important to generate new funders. Thus, more updates on changes to the project send a signal and create a higher probability that the crowdfunding campaign will be successful [3].

3.3 Communication Signals and Tools

Communication also plays a crucial role in order to achieve a successful crowdfunding campaign. Therefore, social presence can positively affect the trustworthiness and the observed risk and helps to increase the number of contributors in reward-based crowdfunding. The communication between the project initiator and the funders during a campaign helps to create enthusiasm in the crowd [13]. Moreover, it can be stated that within the interaction of the crowd, there are three indicators to consider. First, the information seeking, which means that funders are going to ask questions to gather further information on the project. Secondly, the endorsement, which describes compliments of funders in favor of the project, innovation power and future potential, and supports the project of an entrepreneur. Thirdly, there is feedback to consider which is a helpful tool to generate recommendations from the crowd [13]. In the crowdfunding environment in general, frequent communication and active interaction with the crowd are very important in order to give funders the possibility to get involved through feedback or criticism, which makes them actively participate in a project [3].

A. Social Media

During the past years, the role of social media became quite obvious and important and gained increasingly momentum. Some platforms have direct links to Facebook, LinkedIn or Instagram. Therefore, it can be tracked, how many Facebook visitors and connections every entrepreneur has [12]. There is the assumption that a high number of social media connections of a founder increases the success rate of a reward-based crowdfunding project [13]. The so-called community effects are underpinned by quantitative analytics, which shows that the number of Facebook friends has a huge impact on the campaign success as they are the first community members to push the awareness for the initiative [3]. This is why social networks are very important for funders, entrepreneurs and platforms to enhance the success for their crowdfunding campaigns. There is an obvious signal called “buzz” created through social media support for a particular campaign. These are shares, likes, comments or tweets. This social buzz can be of key importance to the success of a campaign if the crowd relies more on recommendations from friends, shared in their social network than on regular company information. According to research, there is an impact of popularity information and social buzz on the success of a

crowdfunding project. Referring to the results, social buzz contributes positively to the support of a project. What is more, the crowd itself uses their own social networks for receiving more useful information on a reward-based crowdfunding campaign [1]. Another important driver on social media are testimonials. In general, it can be stated, that testimonials in social media, especially Instagram, are a good information how willing the crowd is to support a project. In addition, project originators use testimonials to build their own image and positive reputation [10].

B. Homepage Linkage to the Platform and Tracking of Project URL

In addition to the crowdfunding platform, the project initiator can create his own website in order to offer more information on the project and demonstrate an external source of information. Moreover, building an external website enables to include other functionalities which improve the communication with potential funders. The project initiators have to meet the requirements of the platform, which are mostly restricted in their functionalities and therefore an external website can create new options of communication to the crowd. An external website also works as a signal as it demonstrates that the entrepreneur is not only interested in a single campaign but in starting a whole business. And as a consequence, having an external website is assumed to be a positive signal which initiates a higher chance of a campaign success [13]. Using the project URL to increase the traffic for the project is not always easy as some platforms do not offer the functionality of tracking the traffic and delivering the data to be able to address new potential funders. However, when sharing the project URL, the number of comments and likes leads to the assumption of a higher success rate for the project in reward-based crowdfunding [13].

C. Digital Communication Tools on the Platform: the Visual Appeal

Digital communication activities on the platform entail core tools like videos, images and project description. The most important factors to create a visual appeal include inspiring videos, attractive images, a great logo, and product photos. The video is the most relevant source in order to portray the product, service or the overall project including aims and objectives and delivers necessary information about the entrepreneur or the team behind the scenes. The project originator can also add additional information on the reasons to pursue and implement the project, as well as his motivations and drivers. This delivers authenticity which makes the project as well as himself accessible, human and builds a bridge to the funders [13]. Concerning the production of videos on the platform, Kickstarter strongly recommends to focus only on one video. Leaving out this important tool will harm the project as a video is a clear sign and indicator of higher-quality projects. Consequently, it has a high impact on the ability to succeed with a crowdfunding campaign [12]. Images are also a very important communication tool in reward-based crowdfunding. Entrepreneurs focus on them as they have a very convincing impact especially on online platform communication. As research has shown, the use of photos or images influences the amount of contributions in different ways. Firstly, in case of personal photos or images, they portray the originator and his ideas and provide insights about the person representing the project and the campaign. Secondly, images or photos of the product or the project add additional narrative information to enhance the overall social picture [17]. Overall, the visual appeal created by images, photos and videos on the website are very important for the decision-making process of the funders. The more the visual pitches are used in the projects to convince the crowd, the more contributions are donated to the projects. In reward-based crowdfunding the decision-making process of the crowd is rather of social psychological nature than rational business related. However, nowadays the tools for the visual appeal are commonly available and used, and seemed to have developed into a standard which might lead to the conclusion that it is no longer a competitive advantage. Therefore, it is less predictive for success in reward-based crowdfunding. Nevertheless, entrepreneurs still consider the visual appeal as a very impactful narrative instrument. There is research that shows that impactful narrative and storytelling is crucial for firms to achieve eligibility and thus funding. The role of stories is to build a natural and meaningful connection or bridge between the entrepreneur and the crowd. The initiator uses the powerful package of videos and narrative to create a compelling and convincing story to attract new investors to projects with potential for success [11].

D. Electronic Word of Mouth

Word of mouth refers to the word of mouth advertisement which can be described as the oral transfer of messages between consumers. Indeed, this form of communication is seen as very efficient and affects the behavior and the buying decision of consumers. Additionally, the electronic word of mouth relates to the concept of viral marketing and enables customers to spread messages virally without any further external actions taken. Web 2.0 and the usage of the Internet as a communication tool, allows social interaction and connects users especially through social media platforms. In the context of reward-based crowdfunding, entrepreneurs are also able to communicate with the crowd through the platform for example by sending out updates and informing the crowd about the actual project status [17]. Furthermore, electronic word of mouth enabled new research possibilities due to the fact that any kind of communication as well as the content can be directed, tracked and measured. Moreover, Kickstarter for example, offers the possibility for entrepreneurs to share their campaign on Facebook and Twitter. It can be said that social networks are an effective tool to generate brand awareness and also affect the perception of a brand. The exchange of information due to social networking is commonly described as “buzz”. Referring to reward-based crowdfunding means that the integration and also the usage of social networks which creates a lot of buzz, are recorded. Therefore, it can be assumed that a higher social media buzz works as a positive signal and increases the number of contributors and as a result increases the chances of a successful crowdfunding campaign [13].

3.4 Reward Signals

Rewards play a major role in reward-based crowdfunding as they will be offered in exchange to the funding. Rewards can vary a lot, but mostly the reward itself is the developed product of an entrepreneur. There is evidence, that if the rewards touch the heart and the soul, recognize the need and motivation of the funder and supports the “give and take” in the funding project, funders can identify themselves with the project and the rewards, which impacts the decision to fund positively [13].

A. Delivery Time of Rewards

In the online world, people are used to 24/7 ordering and delivery, whereas the delivery time is considered a critical signal of service quality. Late delivery of a product is seen as a cost factor for the one buying the product. Already when considering to buy a product, buyers gather information on delivery time and assess their choice accordingly. So a minimum delivery time is a positive signal to the buyer as it can be understood as a service guarantee or a promise from the producer to the buyer to deliver as fast as possible [13]. Due to fact that the same requirements can be applied to reward-based crowdfunding, the same principles are also valid in this case. The challenge for the entrepreneur is, that he has to fix a delivery date which can only be an estimated one as the product is not produced yet. Also, in this case, a short delivery time can be a quality signal to the funders that enables to mitigate the perceived risk and at the same time increases the trust and therefore impacts the funding positively. When the entrepreneur fixes the delivery date close to the end of the campaign he signals to the crowd that he is confident and able to deliver the rewards in time. For the funders, vague delivery times bear the risk that there are not getting the product when needed so this is a selection-criteria for choosing a project to fund. It also portrays a negative signal as they consider the entrepreneur not prepared enough to realize the project [13].

B. Reward

It can be stated that the rewards in a reward-based crowdfunding campaign portray the product or service which the entrepreneur offers in exchange to increase the contributions. It is core to the funders to experience the product. There are different aspects in research as far as the number of offered rewards is concerned. On the one hand, different reward tiers can be a signal from them entrepreneur to provide a range and offer a choice to the funders, so they can do the selection according their needs and personal motivation. This might increase the number of people willing to fund. Moreover, research evidence proves that funders are more attracted by entrepreneurs who provide more choice. However, there is also research that shows that too many options can create detrimental consequences. There is an assumption that a higher number of rewards limits the success of a campaign. An increased complexity in terms of too many reward options may keep potential crowdsources from funding. Overall, this assumption describes that the higher the number of reward levels are, the chance of a project success

decreases [13]. As the presales of products in form of rewards is important to finance the project, it is a crucial challenge for the entrepreneur to determine the right price to be asked from funders, who plan to preorder. Most of the funders expect some incentive or advantage for preordering the product, this can be a discount during an initial discount phase at the beginning of the campaign, tiered reward systems, exclusive or premium rewards, special packages, or even merchandising. This requires from the entrepreneur careful planning activities, and may entail demanding logistics and production efforts [10].

3.5 Signals with Respect to Social and Sustainability Focus

Globally, there is consent about the high importance of environmental and social problems such as climate change or global injustice. Entrepreneurs try to adapt to the challenges by producing innovative products and services that at least protect the environment and communities. However, companies and organizations also take competitive advantages from strategically following sustainability approaches. In this respect, crowdfunding has supported the access of sustainability focused projects into the markets through enhancing the access to contributions [18].

As the topic sustainability is getting increasingly important throughout all areas of private and business life, it also concerns topics such as investing and investments which has an impact on crowdfunding as an innovative way of financing the growing number of creative ideas of entrepreneurs and project initiators in the field of sustainability and social initiatives. From inventing new sustainable products or production processes, replacing existing products through sustainable ones, inventing new business models and new ways of doing business, as well as supporting the environment, mankind and social causes, all this requires financing and funding. Therefore, it can be recognized that the number of projects in these areas are growing in number on various platforms. The more projects and initiatives are there to be funded, the higher the competition is for funding, and therefore learnings, insights and best practice need to be created and shared in order to be able to attract the right target group and broader crowd to successfully implement a crowdfunding campaign.

There are some studies which researched the impact of sustainability on the success of crowdfunding campaigns and their funding. However, there is still a debate ongoing whether crowdfunding can be seen as an effective method to support sustainability projects. The question is whether it would be better to understand how important product attributes within a crowdfunding campaign impact sustainability projects and increase the success rate of a campaign. Every product can be considered a bundle of attributes which can be abstract, favorable or simply subjective. They contain for example attributes like labor conditions, child labor, product characteristics or are of environmental nature. Moreover, some research states that in reward-based crowdfunding, campaigns targeted at social and environmental orientation, can achieve higher success rates. In addition, projects perceived as sustainable can collect more funders as well as contributions. In contrast to this, there are research results that state that reward-based crowdfunding is not appropriate for sustainable projects where the target group are disadvantaged human beings or groups, as these projects are more adequate for donation-based platforms rather than reward-based crowdfunding platforms. As far as the motivation of funders in the sustainability context is concerned, they mostly fund social or sustainable projects because they would like to support a specific cause that is dear to their hearts, or are driven by a desire to support others. To help others is a key aspect in reward-based crowdfunding. This motivation includes a sense of identification with the project initiator, and is based on reciprocity and altruistic reasons to support a project [3]. In addition, moral and ethical motives play a crucial role for participating in reward-based crowdfunding. There are other drivers of motivation like hedonic goals, which means that funders would like to feel better through contributions, but also gain benefits, which means that individuals would like to enhance or maintain their resources. However, there are other research views which state, that funders consider sustainability in their product choice, but it might not be the first and most relevant aspect to them. The first aspect might be an egoistic product attribute or functionality, which fulfills a personal need and pushes the sustainable attribute in the background. However, there is a common sense and consciousness these days about fair production processes and socially acceptable behavior [18].

4. SWOT Analysis for Project Initiators and Platforms in applied systems of reward-based crowdfunding

4.1. Project initiator

Table 1

Overview of the SWOT Analysis of the reward-based crowdfunding concept

Strength	Weaknesses
<ul style="list-style-type: none"> • Lower transaction costs and financial risks due to web applications • Lower search costs between entrepreneurs and funders • Lower communication costs • Spread of project risk • Zero-cost capital investment 	<ul style="list-style-type: none"> • Asymmetrical information <ul style="list-style-type: none"> ○ moral hazard ○ adverse selection ○ Signaling • Administrative and accounting challenges
Opportunities	Threats
<ul style="list-style-type: none"> • Satisfaction of supporters help to success • Motivation of the crowd: motives by <ul style="list-style-type: none"> ○ consumption ○ altruism ○ social belonging • Generate early feedback of the product 	<ul style="list-style-type: none"> • “All or nothing” model, as a risk of loss • Current legal environment • Risk for the entrepreneurs to fail due to lack of experience • Risk of cyber attack • Risk of stolen idea • not being able to produce product in time/have on stock

From the economical point of view, novel web applications lower the transaction costs and financial risks of crowdfunding to a stable finance form, for the small venture projects [19]. Furthermore, the world wide web is a way to lower the search costs of matching entrepreneurs and funders by enabling cheap and effective internet search. And even more, communication costs can also be lowered because of facilitation of information gathering, investment monitoring and engagement with the entrepreneurs by independency of the geographic location. Furthermore, the project-risk can be spread through different funders with the contribution of small donations [2].

As a consequence, for reward-based crowdfunding there is empirical evidence of a positive effect. Crowdfunding, which is understood as a product pre-ordering model which provides price discrimination in the early stage, can integrate pre-order mechanism into their reward-structure [1]. This means for example that if you invest USD 10 into a music project you will get the released album in exchange. And this can be seen as a zero-cost capital management concept to raise organic growth in the early stage of a business lifecycle [11].

Regarding the weaknesses for entrepreneurs when considering reward-based crowdfunding and first and foremost, there can be some main issues, which arise for all kinds of crowdfunding including the reward-based crowdfunding.

So generally speaking, economic issues can occur, which leads to market failures on the market for crowdfunding in the long run. One issue, that Renwick and Mossialos [19] stated arise through the asymmetrical information dilemma. This dilemma emerged due to the fact, that the project initiator knows more about the project than the funder. The access to the information is often limited because of the geographical separation between the funder and the project initiator and most of the times, the funder is inexperienced in the project field. As a result, the relationship of the funder and project initiator can be described as the one of a principal and the agent. Under the principal-agents relationships two major problems occur. These include the moral hazard and also adverse selection problem. The moral hazard

situation describes the case where the entrepreneur works in self-interest for the project and do not align with the project goals. And moreover, the funder does not have the right to make the entrepreneur accountable for the information of the projects progress and success. The second case where asymmetric information leads to a negative outcome, is the adverse selection problem. This means, that high quality projects will choose more traditional banks for funding and this results in a crowdfunding market pool with low quality projects. In the long run, this will eliminate the funders from the crowdfunding market. Thus, signaling describes an important aspect to look at. Signaling will create interest between the entrepreneur and the potential funders of a project. The entrepreneur will signal high quality projects with long term goals which is promoted by social media and other marketing tools to acquire the right funders of the projects [19].

Although signaling will help to attract the right individuals for supporting a project, another issue needs to be considered. The size of the funding amount can play a major role of the success of a project. Small amounts of funding will be determined as an uncertainty and hesitation of the funder. And uncertainty is more prominent when looking on small funding amounts. As a result, it can be stated that not just the funding itself is a signal, also the amount plays an important role for the signal. So only a moderately high amount can lead to a positive herding effect, which is reciprocal [20].

Now, when looking to the entrepreneurs' role in reward-based crowdfunding, more specified issues can occur which might lead to a weakness on the side of the entrepreneur.

This can be the case when administration and accounting is a challenge for entrepreneurs. In case of reward-based crowdfunding, sending rewards in form of products is time consuming and leads to a higher administration expense. Also, when the first phase of the business life cycle is to overcome, investors are going to be shareholders and administrative and accounting issues arise afterwards. Therefore, it can be seen as a time-consuming weakness [21].

There are opportunities for entrepreneurs when choosing the reward-based crowdfunding concept. First of all, the satisfaction on reward-based crowdfunding is a concept which might be helpful for achieving successful projects. Consumer satisfaction is one major pillar for online shopping and sponsor satisfaction on the other side is an also important criterion for the project implementation success and therefore the project- and crowdfunding platforms. This can be explained, because innovative projects of products or services have a higher demand for sponsor satisfaction than in crowdfunding forms like donation-based crowdfunding, where there is no product or service in exchange [16]. Moreover, the satisfaction of a project can lead to a positive word-of-mouth recommendation, online or offline, of the sponsors and this might help attracting more potential buyers, venture capitalists or also entrepreneurs [22]. Furthermore, the relationship between the sponsor and entrepreneur can be also strengthened when being satisfied with a project. And this basis of satisfaction can be further increased by making funding, being involved in future development, and promotion or commercialization of a product after the finalization of the projects [16]. In addition, satisfied sponsors will say positive word-of-mouth on the platform, where they invested in [16]. This might be another possibly to embrace, when trying to be successful by considering reward-based crowdfunding.

Another factor, that can be seen as an opportunity for an entrepreneur of the reward-based crowdfunding type, the motivation of the crowd when choosing to fund for a crowdfunding project. As explained already in the definition of the reward-based concept, the economic return is not the exchange value that is chosen when funding and therefore there needs to be other sources that value. Previous research suggests three groups of payoffs or motives of it: the consumption, altruism and also social belonging [23]. The first motive, consumption, derives from the supporter's contribution of resources or to the rewards related with the resource commitment. The potential engagement can be seen as a motive when considering that most of the reward-based crowdfunding campaign provide their final products at a discounted price in comparison to the market price. The exchanged value might not have a high material value but an individual customization can lead to a feeling of belongingness to the product. So, the ability of influencing features of a product in development might raise the expected utility which derives from the consumption [23]. Also, the benefit of the reward-based crowdfunding is the commitment of supporters and product developers. This might help to influence the development process and therefore individual preferences will be considered during the development process. And what is more, the motivation to donate more than the funding goal aims requires additional promises on top like a product feature or additional content. Thus, the so-called "stretch goals" are also an influential

way on having an impact on the final product and therefore an opportunity for entrepreneurs and supporters to individualize a product [23].

Another aspect which might be a motivation for an investment in reward-based crowdfunding is altruism. Due to the fact, that charity also has its root in reward-based crowdfunding this can have an impact on the motivation of the supporter. Psychologically, doing good is rewarding and no material benefits are attached. The commitments of buying can also be called as a “warm glow” [24] and “this has a positive affective response emerging from a contribution to a subjectively worthy cause” [23]. Thus, supporters might be driven to support a specific person or group based on sympathy instead of focusing on the specific case [23].

The third group describes the group of social exchange and belonging. It can be said that gathering information on a project can create a level of involvement which cannot be found somewhere else and funders receive a higher degree of motivation out of it [23]. It can also be stated that belonging to a group might convert into a hobby and donors have the desire to share their donations to gather social prestige within a group [24]. This might also be an opportunity to attract supporters for the reward-based crowdfunding platform.

Moreover, the possibility to generate early feedback given by the crowd, can be seen as a further opportunity. Due to the fact, that the initiator shares all information on the product, the crowd has the possibility to give early feedback to the product and therefore enables higher chances to success [21].

The concept of reward-based crowdfunding “all or nothing” can be a threat for the entrepreneurs when starting a project. When using the “all or nothing” model, the crowdfunding campaign ends and the fixed fundraising amount will not be reached, all pledges will be cancelled and the entrepreneur does not receive any fund. The platform Indiegogo calls this type of campaign “fixed funding” and charges a fee of 4% in the case that the campaign was successful.

However, there can be other threats mentioned as well. The legal implication can be mentioned here as a threat of reward-based crowdfunding. Hemingway [25] stated that it needs to be considered regulatory questions, when raising capital on crowdfunding platforms. Even though reward-based might have some looser regulation than other forms of crowdfunding, it needs to be at least considered in terms of securities transactions and security laws [3]. This involves not just the role of the entrepreneurs and investors, but also the role of the platform where the transaction will be made as an intermediary [25].

Furthermore, the risk of cyber-attacks needs to be considered due to the fact, that the crowdfunding platforms are internet-based. Therefore, the platforms or governments need to make cautionary measures to reduce those risks to a minimum level [21].

Another threat or risk an entrepreneur might face, when establishing a project on reward-based crowdfunding platforms, is the risk of the project failure due to lack of experience as a start-up in the market. Mollick [12] already mentioned the issue that entrepreneurs in the early stage of development have no experience with a process and also the launch on a market with all its challenges. And moreover, in this early stage most of the time knowledge on the industry and valuable relationships are missing, which can be the key to success as an entrepreneur [2]. But in case of a successful launch of a product, another threat can occur. The product can have a production bottleneck and cannot be delivered right in time, which also leads to an unsuccessful launch. What is more, the risk of a stolen idea of the products is also given. In order to minimize this risk a patent needs to be issued beforehand [3].

4.2. Platform

This section will cover the role of the platforms in reward-based crowdfunding. There are a number of platforms that cover the reward-based crowdfunding concept. Starting with Indiegogo, which became one of the largest crowdfunding platforms worldwide and offers initiators the chance to launch their crowdfunding campaign. It can be divided into three major categories: innovative, creative and social categories, which will be offered to the entrepreneurs. However, most (61%) of the projects cover the creative ones, followed by the social and innovative categories. The projects can be offered by an individual, a group of people, a registered business or a non-profit institution. The campaign can be offered for up to 60 days for the “all or nothing” concept and 120 days for the “keep it all” concept. While the campaign runs, the platform collects pledges from the crowdsources and after the campaign ends, the funded money will then be transferred to the entrepreneur with the PayPal payment system. One benefit of the use of the Indiegogo platform is, that it can be segmented by the “keep it all” and “all or nothing” concept. In contrast, other major platforms like Kickstarters, FundedByMe or PeopleFund.it

can only provide the “keep it all” concept. And what is more, the platforms such as RocketHub, GoFundMe or Sponsume only offer the “keep it all” concept [10].

The risk of hidden information on the entrepreneurs’ side can also be seen in the case of the crowdfunding platform. Due to the fact that funders might have a lack of information of the project, the chance of success of the campaign can be decreased. Another challenge arises because funders are not able to control how the funds will be used from the entrepreneurs after collection [1].

Another risk for the crowdfunding platform and the crowd can be stated, because there can be the case that fundraisers use the collected funds before a success of a campaign is assured. This might lead to a complete failure of the projects for all participants [1].

To reduce the risk of hidden information the crowdfunding platform takes control of the transaction of the funds. Before the raised money will be transferred to the fundraisers they are able to proof the development of the project and when the project is successful and the stated amount of fund is realized, then the transaction of money will follow. Moreover, the platform can install their own monitoring or reputation systems to use the “wisdom of the crowd” and take it for their own purpose and security. Furthermore, introducing an adequate monitoring system is important for honest reporting and might help to limit the cases of fraud. And this is way a public policy holding the platform liable for fraud, should be stated on the platform [1]

To gain more trustworthiness some crowdfunding platforms also offer services that provide insurance to the crowd for a certain risk. For example, they can collaborate with banks to avoid market risks [1].

5. Conclusion

To conclude, opportunities and challenges of reward-based crowdfunding could be analyzed by conducting a SWOT analysis. As the major advantages of reward-based crowdfunding factors such as the low costs in terms of communication, search as well as transaction costs, could be identified.

Furthermore, the spread of the project risk is given, which means being not dependent on little or even just one funder, such in case of venture capital or business angles. Also, compared to the other three crowdfunding types, i.e., equity-, donation- and lending-based crowdfunding, reward-based crowdfunding has the unique advantage of getting customers to “try” the product which generates customer feedback identifies the market acceptance of the product.

Thus, some challenges could be identified as well. Besides the common crowdfunding risks or threats, which are given in all four crowdfunding types such as: asymmetric information including moral hazard, signaling and adverse selection as well as data protection risks, the risk of a cyber-attack or the risk of getting the idea stolen, can be faced.

Reward-based crowdfunding includes the threat of not being able to produce the product in time or have the stock of it, when the crowd demands.

Concluding, reward-based crowdfunding is one of the most common used types of crowdfunding and provides, besides the challenges, high opportunities for the entrepreneurs to start a successful campaign and constitutes an alternative in financing start-ups, that will more and more gain importance.

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