

Social crowdfunding: individual- and project-related determinants of success Empirical investigation on Kickstarter.com

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“There’s just something magical about Kickstarter... You immediately feel like you’re part of a larger club of art-supporting fanatics.”

Amanda Palmer, who rallied 25,000 supporters for her album



Preface

This Master Thesis is part of my graduation program at Erasmus School of Economics on Economics and Business, specialization Marketing. I would like to express my gratitude towards my thesis supervisor dr. Hyoryung Nam for the opportunity to work on such an interesting and challenging topic. Throughout the past few months I was given her constant support and comprehensive feedback, without which I would not be able to progress on this Master Thesis. I would further like to thank Kickstarter for not suspending the necessary data collection cycle. It was long and technically demanding process during which I needed their collaboration. Without this support, the current Master Thesis would not contain such a broad sample.

Last but not least, I would like to show my appreciation to the Marketing department for the organization of the curriculum in a way that I had all the necessary academic skills to facilitate the writing of this Master Thesis.

Abstract

The current Master Thesis aims to analyze individual- and project-based factors of crowdfunding success. This revolutionary new fundraising form redefines the meaning of entrepreneurship and expands the boundaries of funding opportunities. Due to the relative novelty of the phenomenon academic papers on that topic are still limited. Nevertheless, the present Master Thesis adopts literature from the fields of marketing, economics and social psychology to create unique viewpoint on crowdfunding. By doing so, the research contributes to the existing academic lit by providing new insights with potentially high managerial impact. The conceptual model distinguishes between 6 individual- and project-related factors and 7 hypotheses are developed. In order to test them a sample of 6294 projects from the biggest crowdfunding platform Kickstarter are collected and analyzed. In total 6 direct effects are identified. Next to this one partial and full mediation, as well as 3 moderation effects are identified. Based on these results the paper builds elaborative recommendations aiming at entrepreneurs who consider the use of crowdfunding for funding their projects.

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1 Introduction

1.1 The Emergence of Crowdfunding

The past few decades have witnessed an increase in enthusiasm for entrepreneurship and entrepreneurs. Next to practitioners, academics have matched the same enthusiasm. This broad attention can be justified though since new business creation is the major source of economic growth and agility, new job creation and technological innovation (Birley 1987, Reynolds 1987).

Being an entrepreneur and initiator of entrepreneurship ventures is often risky occupation accompanied with uncertainties. The first problem entrepreneurs face at the very beginning of their initiative is the accessibility to capital. New ventures face difficulties attracting external investments at their initial stage from equity capital and bank loans (Hughes 2009). While venture capitalists and business angels fill the gap for high amount initiatives, smaller amount ventures mostly rely on internal financial power or support from friends and family (Belleflamme et al. 2010). Often known as bootstrapping techniques their use aim to mitigate the entrepreneurs' financial constraints (Bhide 1992, Ebben 2006). However, due to the huge financial risk, funding limitations and instability many entrepreneurs are often forced to give up.

In the recent years, some entrepreneurs have started to seek financial support from the public or the 'crowd' via internet, instead of approaching banks, venture capitalists or business angels (Kleemann et al. 2008, Belleflamme et al. 2010). This funding technique is referred to as "crowdfunding". Crowdfunding is becoming possible due to the emergence of 'Web 2.0', a technology beyond the static webpages, which allows extended usage of internet applications and two-way communication through its interactive and collaborative structures (O'Reilly 2005, Kleemann et al. 2008).

The crowdfunding 'phenomenon' comes naturally, since from 1990s, the World Wide Web plays an important role in shaping and enhancing the relationships between consumers and companies. Crowdfunding is just a reflection of the immense possibilities of 'Web 2.0' technology. Nevertheless, the roots of crowdfunding and can be found in the crowdsourcing. Crowdsourcing uses the 'crowd' as a generator of ideas, solutions and feedback for certain company's problems or processes (Belleflamme et al. 2010). The use of user-generated content in blogs, forums, social networks (Twitter, Facebook, Pinterest, etc.), special crowdsourcing platforms (Innocentive, iStockphoto, Dell IdeaStorm, etc.), or open-source software (Linux, Mozilla Firefox, WordPress, etc.) can be seen as crowdsourcing initiative. In a broad sense crowdfunding can be seen as an extension of the crowdsourcing. In fact some crowdfunding projects can indeed encourage participation of the supporters for the product development, innovation and decision-making processes, which are typically crowdsourcing initiatives (Belleflamme et al. 2010).

1.2 Definition of Crowdfunding

Belleflamme et al. (2010) define crowdfunding as *"an open call, essentially 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"*. Instead of seeking funds from a relatively small group of sophisticated investors (banks, venture capitalists, etc.), entrepreneurial projects can obtain the necessary funds from the 'crowd', using internet-based platforms where individuals can support the project with relatively small amounts of money. In exchange of the pledge, the backer usually receives a "reward" which varies from a 'thank you message' to the actual product, a share or premium content depending on his pledge. Initially crowdfunding has been used in the entertainment music and film industry (Belleflamme et al. 2010). The first known crowdfunding platform is the US based company ArtistShare in 2001, later on followed by PledgeMusic and Sellaband in 2006. However, not long after that many entrepreneurs saw the opportunity into that new kind of fundraising, websites with variety of categories like Indiegogo (2008) and Kickstarter (2009) became common (Zouhali 2011).

While crowdfunding has been primarily used for small entrepreneurship ventures this is not always the case. Currently, there are number of projects rising hundreds or thousands of dollars each. An example of such successful initiative is the popular project from 2012 in Kickstarter – ‘Pebble: E-Paper Watch for iPhone and Android’ which is pledged for 10.3 million, supported by almost 70 000 backers (Smith 2013). The success of that initiative demonstrates that crowdfunding is potentially a fundraising mean not only for small projects, but also for ambitious startups, typically funded by venture capitalists or business angels (Belleflamme et al. 2010). There are over 500 crowdfunding platforms by the end of 2012 and their number is still growing. A research from ‘Massolution’ predicted the crowdfunding industry (equity, donation, lending and reward) in 2012 is estimated at \$2.8 billion, and the number are exponentially growing (Caldbeck 2012).

1.3 Relevance and Research Objectives

1.3.1 Academic Relevance

That apparent interest in the crowdfunding phenomenon gets the attention of the press and the media (e.g. ‘Inc.’, ‘Forbes’, ‘Bloomberg’, bloggers and social media) which try to follow with the emerging technology and business trends. In contrast, the academic research on the topic is considerably limited and so far published works in recognized journals are almost absent. Nevertheless, the growing interest from academics indicates that the crowdfunding is becoming popular among scholars. Recently this area received some attention from academics (e.g. Bayus (2013), Ordanini et al. (2011), Belleflamme et al. (2010), Agrawal et al. (2011) and others). However, still the understanding on the underlying mechanisms is quite fragmented and it remains rather unknown what are the driving forces behind the crowdfunding success. The goal of the current thesis is to contribute to such limited understanding by empirical investigation of the main individual- and project-related determinants from the crowdfunding platform Kickstarter.

This paper adopts various academic articles from marketing, social and behavior literature to construct comprehensive quantitative research. In a way the current paper adds up to the research from Evers (2012) and expands his findings by explaining the aspects of the social network connections, community reputation, membership and involvement in the context of online social crowdfunding. To the best of our knowledge no research so far has examined these aspects of the crowdfunding, so it is believed that the current paper will reveal new insights with academic and managerial relevance.

1.3.2 Managerial Relevance

From a managerial perspective the research is relevant as well. It is apparent that the emerging crowdfunding trend grows in users and popularity. Entrepreneurs seek to fund their projects and often the only viable option is to tap into the crowd. Furthermore, the recent financial crisis negatively affected the private sector and external financial sources became scarce (Dell'Araccia 2008). This trend places the emphasis on that new online mean of funding. New insights in this phenomenon will help practitioners to make better decisions on their projects. Results of the current research reveal important determinants on individual- and project-levels. For example, the importance of the community involvement and the social buzz influence are factors to take into consideration before setting a project. Additionally, the effects of request size and the variety of funding tiers are findings with highly practical implications. Entrepreneur setting an online crowdfunding project may consider the insights provided from the current paper before initiating a project.

1.4 Thesis Outline

Firstly, existing theoretical background on the crowdfunding phenomenon is presented. Existing academic papers on the topic are limited and most of them are briefly discussed. Next, the development of the conceptual model is presented along with the hypotheses. Relevant marketing and behavior literature is borrowed for construction points. Following is the data collection design and a short description of some key elements of the website. Measures used for quantifying the conceptual model and testing the hypotheses are explained in the next

chapters. Discussion on the results along with managerial implications findings follow. Conclusion is provided at the end, where academic contributions and managerial applications are discussed. Lastly limitations and directions for future research are pointed out.

2 Theoretical Background

2.1 From Crowdsourcing to Crowdfunding

Kleemann et al. (2008) asserts that *“crowdsourcing takes place when a profit oriented firm outsources specific tasks essential for the making or sale of its product to the general public (the crowd) in the form of an open call over the internet”*. The idea is that the contribution of the individuals is either for free or significantly less than its actual worth (Kleemann et al. 2008). Firms engage creative individuals, highly skilled professionals, or the collective opinion of a group of individuals (*“Wisdom of the crowd”*¹) to generate value. Crowdsourcing tasks include technical solutions, product or graphic design, advertising, quality control, etc.

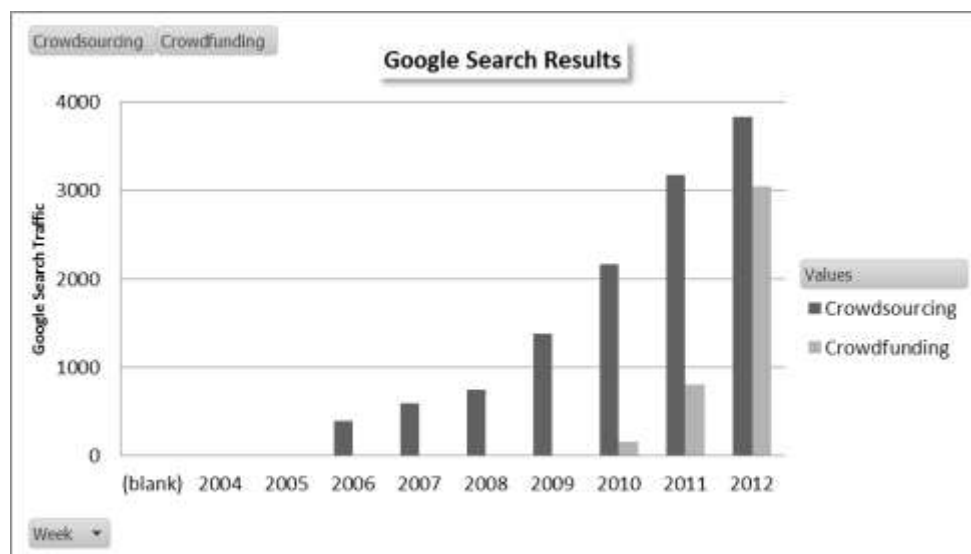
The functional differentiation of society into "producers" and "consumers" is an old-fashioned concept of the industrial society (Kleemann et al. 2008). Nowadays, consumers have stopped to be entirely takers of goods and services, but rather they start to take part into the firms' production and delivery processes. This describes consumers more like co-workers, taking specific production processes under the control of the enterprise (Kleemann et al. 2008). The crowdsourcing phenomenon is accompanied with the emergence of that specific type of consumer - the "working consumer" (Kleemann et al. 2008). Howe (2006) compares crowdsourcing to outsourcing, asserting that the new pool of cheap labor are people taking part into the content creation, innovation and R&D processes. Whereas some outsource their processes abroad looking for cheap labor, the development of "Web 2.0" platforms made possible for others to tap into the unlimited supply of potential workers (Howe 2006).

¹ See James Surowiecki – *“The Wisdom of Crowds”* (2005), ISBN 978-0-385-50386-0

In a broad sense the concept of crowdfunding can be seen as integral part of the crowdsourcing, using the “crowd” as a source of ideas, feedback and solutions for developing business activities (Belleflamme et al. 2010). The crowdsourcing definition can provide a key understanding why crowdfunding is embedded into the crowdsourcing (Belleflamme et al. 2010). In crowdfunding initiatives the consumers can volunteer to provide help into the development of a product or the support of a cause and that input is in the form of financial support. From this perspective, crowdfunding is a subset of crowdsourcing, since the latter includes also financial help (Belleflamme et al. 2010). Similarly to crowdsourcing, crowdfunding uses online social communities or networks to finance the funding initiatives (Kuile 2011). Hence, that social element in the crowdfunding is the main pillar in the crowdfunding existence and development.

Crowdfunding has become popular in the recent 3-4 years, compared to the crowdsourcing which dates back from the beginning of the century. The emergence of big crowdfunding platforms such as Sellaband (2006), Indiegogo.com (2008), and Kickstarter.com (2009) has become the starting point of that revolutionary new funding mean. The comparison of Google searches for the two terms has been shown on the figure below in order to contrast the emergence of the two concepts.

Figure 1 - Google search results



2.2 Crowdfunding Literature

As crowdfunding is relatively new phenomenon it is not a surprise that published academic literature on that topic is considerably limited. So far very few scholars dealt exclusively with the topic of crowdfunding (Kappel 2009, Belleflamme et al. 2010, Schwienbacher 2010, Agrawal et al. 2011, Belleflamme et al. 2011, Ordanini et al. 2011, Bayus 2013). Extensive literature exists on the topic of crowdsourcing (Kleemann et al. 2008, Malone et al. 2010, Chong 2012, Poetz 2012, Stieger et al. 2012). However, most of the crowdsourcing literature does provide insights for understanding the crowd used as a source of funding.

Another type of literature, related to the helping behavior (Bendapudi et al. 1996), entrepreneurship (Shane 2002), social and group behavior (Dholakia et al. 2004) is utilized for the conceptual model of that research. However, it is hard to fully translate all of the borrowed literature to “Web 2.0” context, inherent to the crowdfunding. This limitation may potentially constrain the theoretical model.

In the following paragraphs significant academic works dealt exclusively with the crowdfunding matter are briefly discussed.

2.2.1 Customers as Investors

Ordanini et al. (2011) set an in-depth qualitative analysis among a set of diverse in nature crowdfunding operations - SellaBand, Trampoline and Kapipal. The paper addresses fundamental questions of why and how consumers turn into crowdfunding participants and the service providers to set up a crowd-funding initiative. The research clarifies that the project involvement, the social engagement and the monetary return are among the main drivers for consumers to become investors. However, these factors heavily depend on the crowdfunding platform. The diverse set of platforms examined in that research tend to catch the differences among them. Despite the differences common for all is that consumers-investors like engaging in innovative behavior (Ordanini et al. 2011). Beyond the mere content of the crowdfunding

initiative, the participants are also attracted by the innovative way the technology platform is used, especially in the context of social networking (Ordanini et al. 2011). Indeed important point of interest for the current paper is the social networking aspect of crowdfunding, which does not get the necessary attention by academics.

Ordanini et al. (2011) study contributes also to the crowdfunding literature describing the project's diffusion curve. The authors identify 3 phases – rapid accumulation in the beginning mainly due to the investments of the users who are directly connected to the project (e.g. friends, families, colleagues, etc.), slowdown in the middle described as “getting the crowd” phase where word-of-mouth determine whether the project will turn into the third phase, described as an engagement phase, or the phase where the funding is done mainly by people who are interested in the project.

However, despite the obvious contributions to the crowdfunding literature the study's qualitative approach constrain to a certain extent the scope of the paper. Further quantitative research is necessary to match the same findings with regards to project involvement, social engagement and the monetary return as main drivers for consumers to become investors.

2.2.2 Classification of the Crowdfunding System

Belleflamme et al. (2010) conduct an empirical study from industrial organization point of view on different types of rewards and rights, as well as the magnitude of the financial contributions generated through crowdfunding. The research is based on 51 crowdfunding ventures. The paper distinguishes between 3 different forms of investment: donations, active investments, and passive investments. The study discovered that non-profit initiatives are significantly more likely to reach their funding goal than for-profit ones and project based initiatives. Belleflamme et al. (2010) assert that crowdfunding initiatives have implications beyond the financial sphere (e.g. having entirely functional goal to fund the project), it also draws the public attention and receives customer response by using the crowdfunding platform as a two-way communication

channel. Hence, crowdfunding may also be regarded as a powerful promotional tool and user-based innovation tool.

Schwienbacher (2010) provide extensive analysis of crowdfunding practices based on a study case from a French startup. The paper emphasizes on the practical implications by explaining when small entrepreneurial ventures can successfully use the crowdfunding approach, instead of other fundraising techniques. Schwienbacher (2010) defines crowdfunding in very simple terms: *“Financing of a project or a venture by a group of individuals instead of professional parties (like, for instance, banks, venture capitalists or business angels)”*. By any means rising money is the most important reason behind setting up a crowdfunding initiative. However, Schwienbacher (2010) recognizes two more important reasons. Firstly, creating public attention and secondly testing the market potential before bringing the product to the market. Similar to Belleflamme et al. (2010) findings, crowdfunding goes beyond simply rising money for initiating a project, but may be used for effective product management. In that respect the research recognizes the importance of the efficient communication and networking. In order to reach skilled motivated supporters, it is crucial to reach as many people as possible in the first place (Schwienbacher 2010). That simply means that the pool of potential funders is increasing as the network of people exposed to any form of communication about the project is growing. In that context the effective communication through Web 2.0 such as social networks or even the use of offline communications is critical for creating the buzz (Schwienbacher 2010).

2.2.3 Inter-Personal Relations in Crowdfunding

Agrawal et al. (2011) explore the role of the geographical distance in the early stage crowdfunding entrepreneurial projects. They set a quantitative research on investments among 34 entrepreneurs in the music industry. One of the main results consistent with the entrepreneur literature is that the local circles (likely friends and family) are among the first and most important source of capital in the first stages of the entrepreneur’s venture and the same are less influenced by the other investors. These findings are also in line with the crowdfunding diffusion curve set by Ordanini et al. (2011). Agrawal et al. (2011) explain that finding with the

information asymmetry. Similar findings are discussed by Shane (2002) in the context of venture funding, which is adopted in the conceptual model of the current thesis. However, consistent with prior research Agrawal et al. (2011) results suggest that even though online crowdfunding seems to eliminate most distance-related economic frictions (e.g. providing input, gathering information), it does not eliminate social-related frictions.

2.2.4 Helping Behavior

Sources from other literature are also related to the crowdfunding phenomenon. Number of marketing literature exists on the topic of helping behavior. However, the majority of them is focused on specific aspects of the helping behavior. For example a great amount of literature deals with the type of request (Burnkrant 1982, LaTour 1989, Bagozzi 1994) and its size (Reingen 1978, Brockner et al. 1984, Schibrowsky 1995). Bendapudi et al. (1996) utilize that to create a theoretical framework for understanding the drivers affecting the helping. The framework provides a broad overview beyond the mere main effects and provides investigation over the interaction effects of donor and charity variables. The same is adopted in the conceptual model of the current study.

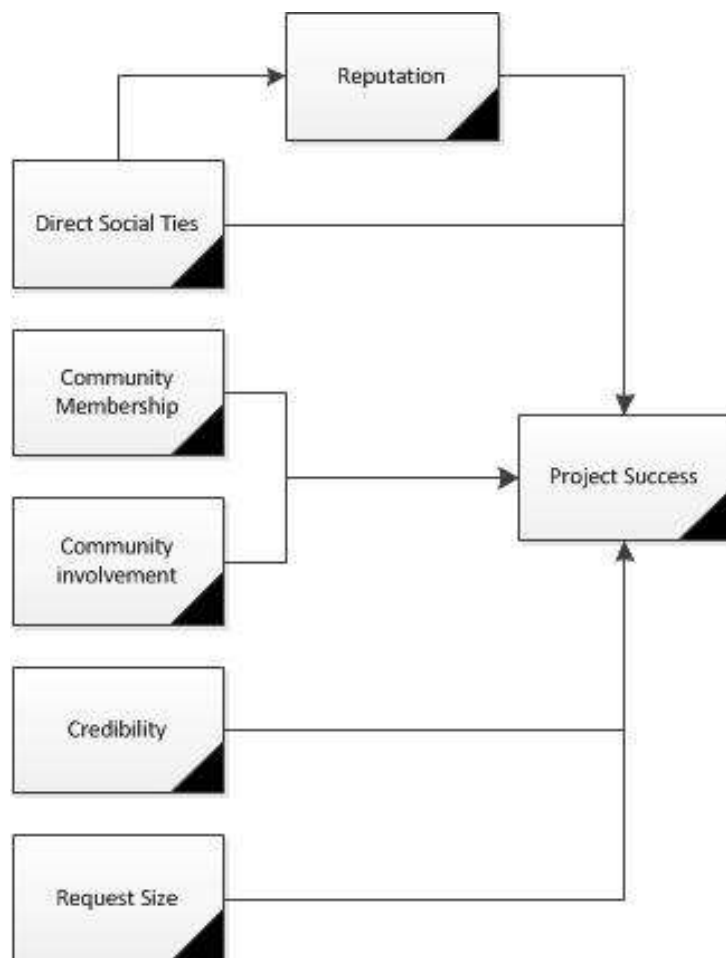
Evers (2012) utilizes the framework from Bendapudi et al. (1996) and adopts it in the context of crowdfunding. The research is based on 8807 projects from the popular crowdfunding platform IndieGoGo. Totally 8 drivers of success have been identified - cause of need, image, picture appeal, social comparisons, labeling, perspective advocated, decisional control and request size. Evers (2012) provides extensive research using actual data from the website in order to present the most important factors of success in any crowdfunding initiative on IndieGoGo. It is worth mentioning that his research is the first that presents the complex issue in such extensive way and with that it has significant managerial implications. As noted before, the current research expands on his research and further explains additional aspects of crowdfunding, potentially having a high managerial impact.

3 Conceptual Model

To develop the conceptual model, theories from marketing, economics and psychology are borrowed. They are utilized accordingly in the context of social crowdfunding and seven hypotheses are constructed. The relevant literature along with the hypotheses are presented in the current chapter.

The conceptual model discriminates between individual-focused factors (network ties, community reputation, membership and involvement) and project-focused factors (image credibility and request size). The project outcome is the main dependent variable in the model, which is measured by the actual project success rate. Along with the direct effects one mediation effect is tested. Visual reference to the model is presented below:

Figure 2 - Conceptual Model



3.1 The role of the Social Ties

3.1.1 Information Asymmetry

In the context of venture funding the information asymmetry can be the biggest setback between potential investor and the entrepreneur. The information asymmetry exists when *“one of the party has less perfect information than the other party”* (Johnsen 2010). The information asymmetry assumes that the relationship between the entrepreneur and the potential investors is not flat, so as the dissemination of information (Shane 2002). For instance innovative technology start-up seeking for external finance is often not willing to disclose all the know-how to potential investors, since doing so may lead to a leak of important information, likely to be used by competitors. In that case the investor has to decide on the funding not in the presence of perfect information. Theoretically, the information asymmetry described above could discourage potential investors and make it hard for the entrepreneur to obtain external funding (Venkataraman 1997, Shane 2002). Despite that claim, however, we do not observe failure in the venture finance market (Shane 2002).

3.1.2 Social Ties

The study from Shane (2002) asserts that social ties are the main mechanism for overcoming the information asymmetry in venture entrepreneurship. Direct social tie is *“a personal relationship between a decision maker and the party about whom the decision is being made”* (Larson 1992). In the context of online social networks a person is part of a user’s 1st level network if the same has a direct connection with the former (Trusov et al. 2010). That direct tie or the entrepreneur-investor dyad is a result of prior activity (Shane 2002). That prior relationship is the reason for funding decisions to be affected through social ties. Information transfer through social connections and social obligations between both parties are the two main mechanisms through which social ties affect venture funding decisions (Shane 2002). By possessing a network of direct ties the entrepreneur can share information and step into a transactional relationship where both parties are motivated to maintain relationship in a

trustful manner generating a sense of obligation (Shane 2002). That potentially overcomes the information asymmetry problem as information is shared without any risk for the entrepreneur or the investor. Hence previously established direct tie between the investor and the entrepreneur makes the investment more likely to take place, than without such a link (Shane 2002). However, the impact of direct social ties on investment decisions has not been discussed in online setting. Despite that for the current research existing theory is adopted and it has been assumed it is relevant for the online setting. That assumption might be misleading, because the information asymmetry in the online setting is limited, compared to the offline setting. However, considering the shortage of literature and in line with the exploratory nature of the research it is hypothesized the following:

H1: The number of previously established direct social ties (1st level network) of the entrepreneur favorably affects the project success.

3.2 Reputation

Shane (2002) discusses entrepreneur's reputation alongside social relationships. Reputation is defined as information about individual's past performance (Podolny 1994). Reputation provides information to the investors about the entrepreneur's skills, expertise and possessed abilities to bring the project to its launch (Shane 2002). Once the information about the entrepreneur's past performance is known then his abilities are beyond dispute. Therefore positive reputation should attract investment interest, since the entrepreneur has already proved his successfulness (Shane 2002). That suggests that investors should be more likely to fund the entrepreneurship project once the entrepreneur has positive reputation about his past performance (Shane 2002). Hence it is hypothesized the following:

H2a: Previously established positive reputation of the entrepreneur favorably affects the project success, whereas negative reputation withdraws investment interest and unfavorably affects the project success.

Reputation assumes that information about entrepreneur's performance is publicly available (Shane 2002). Once the information about the entrepreneur's reputation is publicly available

the efforts of investors to obtain private information from social network ties would become less relevant (Shane 2002). In the context of social crowdfunding communities this behavior suggests investment decisions based on possessed entrepreneur's crowdfunding reputation rather than based on possessed investor social networking. To the extent that social network ties are used for collecting information, reputation should mediate the effect of social ties on the funding decision (Scott Shane 2002). Hence it is hypothesized:

H2b: The role of the previously established reputation of the entrepreneur mediates the effect of direct network ties on the project success.

The above thoughts assume that social ties are a mean to gather information (Shane 2002). That is a twofold process, from the potential investor and from the entrepreneur. Based on entrepreneur's reputation mediation should exist only if the investor is the one who seeks for information. However, it is often the entrepreneur who distributes the information and the investor passively adopts the information. That behavior is especially common across social networks. In that case the reputation should act only as a signaling variable, without mediating the role of the social ties. Based on this we can expect partial mediation of the reputation over the effect of direct ties on the project success rate.

3.3 Online community - Membership and Involvement

3.3.1 Crowdfunding Platforms seen as Online Communities

Virtual communities are defined to be digital environment where users organize, communicate and support each other. It is a special type of social entity mediated by the digital environment (Rheingold 1993, Bagozzi 2002). The shared goal of the online communities can be either functional (for e.g. exchange of information or support of the community members) or/and hedonic (e.g. user experiences and interactions between its members) (Bagozzi 2002). However, in both cases community is the essential reference group for its users (Bagozzi 2002). A resemblance is found between the above mentioned characteristics and those of the social crowdfunding platforms. First, the communication between the members of the community is entirely mediated by the online setting. Next, there is a clearly defined functional goal within

the crowdfunding communities, such as the mutual benefit for both the project initiator as he generates financial resources and the supporters as they receive reward in return of their pledge. Finally, hedonic motives are also drivers of participation as for instance the joy of interaction with the members or the shared interest in certain crowdfunding projects are among the many examples for driving behavior. As a common rule online social communities depend on users' voluntary participation, commitment, and contributions (Bagozzi 2002).

3.3.2 Membership and Involvement

For conceptualizing the role of the community membership and involvement the broader concepts of social identity and in-group favoritism are adopted.

Social identity represents the main aspects of the individual's identification with the community or the group in a way that one view him- or herself as a member of the group or the community to which he/she belongs (Dholakia et al. 2004). Social identity is part of the individual's self-concept derived from perceived membership in a relevant social group (Turner 1986). This assumes that membership is the main construct of social identity. Further social identity enforce group-oriented behavior, that leads to stronger online community participations, driven by the in-group favoritism (Ellemers 1999, Dholakia et al. 2004). Hence, community participations or otherwise involvement is affected by in-group favoritism, determined by the social identity. In the context of social crowdfunding this means that members of the community would be more inclined to support community activities and in return be an object of support from other community members.

In-group favoritism refers to a pattern of favoring members of one's in-group over out-group members (Dasgupta 2004). It is worth mentioning that in-group favoritism may exist even within members of the same online community. This is deemed to be possible in the context of online communities, since membership and involvement in the online setting are usually not strictly defined as they are in offline setting. For example new members are free to join and quit at any time and community members may merely exist, without being active whatsoever. In this

case such members are not perceived as healthy members of the community, but rather seen as outsiders.

The concept of social identity discriminates between two constructs that affect and in return are being affected by in-group behavior - perceived membership and involvement and participation within the online community. Similarly, the current study also discriminates between membership and involvement. Community membership represents the extent to which a user is identified with the online community as a function of his membership (e.g. being a member of the community and sharing the same social norms with the rest of the members). It is worth mentioning that community membership differs from community reputation or involvement, as the former represents the passive engagement of the member and in return adopts the community's social norms which do not assume active behavior. Community involvement on the other hand represents the extent to which the user actively participates in online community activities (e.g. support members of the crowdfunding community, by being financially or non-financially involved – by commenting, backing, sharing content, etc.). It is important to note that due to their virtual existence membership and involvement in online communities are matters of degree which vary across members (Bagozzi 2002). Some users might be actively engaged in the online community (e.g. supporting, commenting, sharing), whereas others may merely be present without being involved.

Based on the above theoretical reasoning it is hypothesized the following:

H3: Higher entrepreneur's membership within the online community favorably affects the project success.

H4: Higher entrepreneur's social involvement within the online community favorably affects the project success.

3.4 Credibility

As discussed before Bendapudi et al. (1996) create a framework explaining the helping behavior. The paper identifies number of factors affecting the helping behavior – antecedents or charity

controlled factors (source variables, message variables and request variables) and moderators (donor variables and non-donor variables). These factors lead to helping behavior (serious help, token help or no help), which on the other hand leads to a number of consequences for the community, for the donor, the charity or the beneficiary (Bendapudi et al. 1996). It is arbitrary whether that framework is fully applicable in the context of crowdfunding for a number of reasons (see section 2.3.4). However, part of it is adopted to explain important factors in the crowdfunding project, such as the credibility of the source and request variables which we consider having an important role for the project outcome. It is worth mentioning that these factors are project-related, whereas the factors discussed so far were individual or creator-focused.

As a source variable, the charity image is important determinant of the helping behavior, since the message is usually a function of the charity's image (Bendapudi et al. 1996). Both, the message and the source image are antecedents of the helping behavior and may be affected by a number of moderating factors, as explained above (Bendapudi et al. 1996). However, since the message is a function of the source image, the last is a critical element of the charity outcome and determines whether contribution is considered (Bendapudi et al. 1996). In order for potential supporters to consider contribution, they must first believe in the message, which is a function of the source image (Bendapudi et al. 1996). In the context of social crowdfunding the source image is the overall image of the entrepreneur or the project creator, created by external or internal cues. Social literature asserts that the message is more likely to be accepted when the source has credible and familiar image (Kelman 1961). Therefore it is hypothesized:

H5: Credible image of the entrepreneur is more likely to be accepted by potential investors and favorably affects the project success.

3.5 Request Size

Bendapudi et al. (1996) consider request drivers and particularly the size of the request as antecedent which also affect the helping behavior, thus the outcome of the fundraising project. The relationship between the requested size and the project outcome is not always clear.

Higher request size may be perceived as unreasonable, whereas lower request size may lead to rejection because the potential supporter sees his contribution as insignificant. This assumes that the size of the request should be significant, yet reasonable. In this case the ideal approach that would maximize the funding outcome is to set higher request size to traditionally high supporters and lower request size to traditionally low supporters (Schibrowsky 1995). However, very often previous supporter's behavior is not observed by the entrepreneur and that maximization strategy is hard to be applied. Without such information, literature studies observe the answer is in line with the notation that the request size for fundraising projects is usually a subject to price effects. Schibrowsky (1995) asserts that the response rate is usually inversely related to the size of the request. Hence it is hypothesized the following:

H6: Higher request size should lead to lower response rate which unfavorably affects the project success.

4 Data

In order to test the hypotheses actual data is collected from the crowdfunding platform Kickstarter.com. In the current section the platform of the analysis, the data collection design and the website specifications relevant for the study are briefly described.

4.1 Kickstarter.com as Platform of Analysis

The data of the current thesis is entirely based on the crowdfunding platform Kickstarter.com. We will briefly introduce the website, the officially published statistics and the general characteristics of it.

Kickstarter was launched in April, 2009, first known as 'KickStartr'. Soon after that the website was awarded by 'New York Times' and 'Time' as one of the 'Best Inventions of 2010' and 'Best Websites of 2011' (Snyder 2010, McCracken 2011). As for the official Kickstarter statistics, 102,372 projects were launched till July 2013. From all 45,037 were successful and pledged for

\$606 million (Kickstarter Statistics Jul 14 2013). This makes the website the biggest crowdfunding platform in the world at the moment (Blanca 2012).

Kickstarter uses ‘All or Nothing’ model, which means that if the project does not reach its goal within the timeframe, it will not be funded and the pledges collected will be returned to the backers. Kickstarter charges 5% of the funds raised. Amazon Payments (the official payment mean of Kickstarter) charges additional 3–5% (Kickstarter Webpage 2013). Unlike many other platforms, Kickstarter does not claim ownership over the projects. Kickstarter projects are classified in 13 categories namely: ‘Film & Video’, ‘Music’, ‘Publishing’, ‘Art’, ‘Games’, ‘Design’, ‘Fashion’, ‘Food’, ‘Photography’, ‘Theater’, ‘Technology’, ‘Comics’, and ‘Dance’ and 50 sub-categories. The most initiated category is ‘Film & Video’, but it is not the most successful one, nor the most pledged one (Kickstarter Statistics Jul 14 2013). Please refer to the table below with the most recent Kickstarter statistics from July 14th 2013.

Table 1 - Kickstarter Statistics July 14th 2013

| Project Category | Initiated Projects | Successfully Funded Projects |
|----------------------|--------------------|------------------------------|
| Film & Video | 26842 | 39.92% |
| Music | 22697 | 54.88% |
| Publishing | 12040 | 32.22% |
| Art | 9252 | 48.87% |
| Games | 5627 | 34.71% |
| Theater | 4713 | 64.42% |
| Design | 4290 | 38.72% |
| Food | 3746 | 41.06% |
| Fashion | 3520 | 28.89% |
| Photography | 3221 | 36.57% |
| Comics | 2649 | 48.66% |
| Technology | 2410 | 34.02% |
| Dance | 1365 | 71.36% |
| Total/Average | 102372 | 43.99% |

4.2 Data Collection Design

The data was extracted from actual Kickstarter projects, all of which have finished by the time they were included in the sample. Visual Web Ripper 2.12 data-extraction software was used for that purpose. After the collection plan was designed, the software automatically scans through

2 webpages - Kicktraq.com and Kickstarter.com in order to collect various website content structures and to organize them into usable spreadsheet format.

Kickstarter.com has the policy not to disclose unsuccessful projects and not to publicly share any kind of information related to them. Therefore within the Kickstarter.com webpage the user cannot navigate to unsuccessful or canceled projects. Nonetheless, the same are accessible if the exact link or the name of the project is entered into the search bar. The limitation was a huge setback at the initial stage of the research, since it seemed impossible to obtain information from unsuccessful projects, because they were virtually inaccessible through the navigation bars in Kickstarter. This potentially means unsuccessful projects would not be collected, thus the results would be entirely biased towards successful projects which makes them not representative. The website Kicktraq.com is quite useful in that case as it may be used as a website proxy for all Kickstarter campaigns with disregard of their success. Kicktraq is an independent platform that provides analysis on current and former Kickstarter campaigns (Flaherty 2012). To overcome the sample problem, the collection software was programmed to use Kicktraq first in order to access Kickstarter later, repeating the cycle for each and every project. Consequently, Kicktraq website is the 1st layer of the data collection design. By doing so, no loss of information was detected and both successful and unsuccessful projects were systematically collected.

An ample cross-sectional sample is collected. Only finished projects are selected in order to assure that the predicted variables, as well as the predictors were accurately represented, and future variations which might turn out the final project outcome are not possible. Total of 6411 projects have been extracted from Kickstarter.com. However, 6294 projects were used in the analysis, which stands for 5.9% of all Kickstarter projects ever launched (Kickstarter Statistics Jul 14 2013). The rest 117 records from the ones extracted are either blank records or have key values missing and thus were not considered. This data failure was caused by software refreshment on every 24 hours. However, the loss will not have a heavy impact on the representativeness of the sample, since it stands for barely 1.8% of all the extracted records.

As described above, Kickstarter provides a great variety of project types combined into 13 different categories and 50 different sub-categories. Our sample includes all projects from all categories and sub-categories in the period February 2013 – April 2013. Variable thresholds have not been set, thus over- or under-represented parameters are not likely. This assures that the sample should be fully representative and do not suffer from sampling bias.

In the next few sections important navigation elements of the website are described. The elements that are being used in the analysis are elaborated along with frequently used Kickstarter terminology.

4.3 Project Landing Page – 2nd layer

The project landing page is the first page of the project the user lands on when navigating through the website. The project landing page is the first direct link to actual Kickstarter content. However, due to the data-collection complications stated above it represents the 2nd layer of the data collection design. Below some key terminology and respectively key elements from the website are shortly explained.

Backers

Backer is a person who supports the project by funding the same with at least the minimum amount possible from the funding tiers. This term is adopted in the current thesis.

Pledge and Goal

The funding goal is the money amount announced to be the final target of the project. The pledged amount is the money amount collected so far. After the period announced for funding, the project is closed for potential backers. Whether the project is successful or not depends on the ratio between the pledged amount and the funding goal at the end of the funding period. It is important to note that the funding goal may be exceeded and respectively the ratio may go further beyond the value of 1.

Facebook integration

In case the user is Facebook integrated within Kickstarter, his or her Facebook network is visible on the project landing page and user's activity is usually shared with the network of the user. For the purpose of the study the number of Facebook friends is only relevant whenever Facebook integration is available.

External webpages

In the common case this is independent website containing project or creator related information. When available a reference to the website is visible on the project landing page.

Funding tiers

Funding tiers is defined as the pledge levels that the potential backer can select from when considering to fund a project. Funding tiers often have "rewards" associated with each one of them, such as the higher the tier the higher the reward.

Visual reference of the project landing can be found in Appendix - 10.

4.4 Profile page – 3rd layer

Distinct Kickstarter section is dedicated to each user's profile, including detailed information about the creator past experience, biography, and general information. This section is particularly important for the study, since most of the individual-level variables are collected from here. The Creator's profile page represents the 3rd layer of the research data collection design.

Previously created projects

Previously created projects are immediately available at the creator's profile page. Relevant for the study are all previously successful and failed projects. Respectively, this information is collected in a systematic manner for each creator's profile.

Previously backed projects

The website provides full information about each previously backed project. However, the study is exclusively interested in the number of backed projects, regardless of whether they were successful or not.

Creator Comments

That section includes all comments made by the user, the respective date and the project that has been commented on. The study is interested in the number of comments made by the creator.

Registration date

Finally, at each user's profile page the respective date of registration is visible. It is scrapped per user and then converted into continuous variable for the purposes of the analysis.

Visual reference of the user profile page can be found in the Appendix 11.

5 Measures

In order to measure the effect of all factors on the project outcome, data scrapped directly from Kickstarter is used. Raw data directly collected from the website is complete and comprehensive measure for some concepts. However, proxies are used for others in order to cover the complexity of the factors as much as possible. Some concepts are quantified by one measure, whereas for others multiple measures are used. In the current section the measures used to construct each factor from the conceptual model are discussed. As noted before, the conceptual model discriminates between individual-focused factors and project-focused factors. Similar separation is applied for the measures. Summary of the measures used is presented in the table below.

Table 2 - Summary of the measures

| Conceptual Variable: | Measurement: | Variable Label: | Operationalization: |
|-----------------------------------|--|-------------------|---------------------------------------|
| <i>Dependent variable</i> | | | |
| Project success | Ratio between the amount pledged and the funding goal | Success_Ratio | (Pledged_amount)/(Goal) |
| <i>Individual-focused factors</i> | | | |
| Number of direct social ties | Number of Facebook friends | FB_Friends_MCMC | Directly observed (continuous) |
| Reputation | Number of previously successful/failed projects | Reputation_Index | (Previous_Success)-(Previous_Failure) |
| Community membership | Number of days being a member of Kickstarter | Membership_Length | Directly observed (continuous) |
| Community involvement | Number of previously backed projects | Creator_Backed | Directly observed (continuous) |
| | Number of previously commented projects | Creator_Comments | |
| <i>Project-focused factors</i> | | | |
| Image credibility | Presence of external platform/website | External_Platform | Directly observed (nominal) |
| | Presence of financial plan | Financial_Plan | |
| Request size | Amount of the funding goal | Goal | Directly observed (continuous) |
| | Average amount requested from the funding tiers | Tiers_Avr | |
| <i>Controls/Exploratory</i> | | | |
| Funding tiers | Number of funding tiers related to the project | N_Tiers | Directly observed (continuous) |
| Project duration | Number of days the project was opened for funding | Days_Lasted | Directly observed (continuous) |
| Project age | Number of days since the end of the project funding period | Days_Since_End | Directly observed (continuous) |
| Project category | Project category | Games, Music etc. | Directly observed (nominal) |

5.1 Project Success

The project success is the main dependent construct in the conceptual model. It is measured as a ratio between the amount pledged and the funding goal at the end of the funding period (Success_Ratio). Outcome ratio below the value of 1 indicates non-successful funding, whereas outcome ratio of 1 or above indicates successful funding. Having continuous measurement of the success allows for comprehensive view, beyond the mere success of the project. By having continuous measurement the model avoids giving equal weights to projects that were barely reaching the funding goal and those that were far exceeded it (being the case of binary variable). Similarly it avoids equalizing projects that were almost funded with those that were not funded at all. In this way a precision in measurement is gained which allows for dynamics in the dependent variable. It is worth mentioning that most of the crowdfunding platforms do not use “All or nothing model”, but instead adopt “Keep it All” model. Therefore, results based on a ratio scale for a primary measure of success may have wide range of applications among different crowdfunding platforms.

However, an important note is that projects with small funding goals receive funding easier, ceteris paribus. They reach the funding goal and exceed it with relative ease. For this reason the funding goal is included in the model as a control.

5.2 Direct Social Ties

For measuring the effect of direct social ties the user's social network information available at Kickstarter is employed. Once the user is Facebook integrated, and uses Facebook as primary mean for website access his or her social Facebook network is exposed. We employ number of Facebook friends of the creator as a proxy measure for direct social ties (FB_Friends_MCMC). Number of Facebook friends for each creator's profile is systematically collected when available. From the sample 69.4 % of the creator's profiles are Facebook integrated². Note that direct social ties assume network outside the pool of people within the online crowdfunding community. So as the proxy assumes the same. Those are usually connections established prior to the initiation of the crowdfunding initiative. Nonetheless, the research does not allow for testing that assumption, and hence the interpretation must be approached with caution. Despite that, the use of Facebook friends as a proxy for a direct ties is considered comprehensive, having in mind the social networks boom in the last few years. Facebook network often represents one's complete social network.

5.3 Reputation

The role of the reputation is next discussed as a leading driver in the conceptual framework. Reputation is defined as information about individual's past performance (Podolny 1994). Similarly, we quantify reputation as creator's past performance directly accessed from his profile. Two measures are used to quantify reputation - number of creator's successful projects (Previous_Success) and number of creator's failed projects (Previous_Failure). Simple reputation index is computed (Reputation_Index) from the two (see table 2).

² There is no officially published statistics from Kickstarter on that number, so it is hard to crosscheck the sample with the entire population.

5.4 Community Membership

As a measurement of community membership the length of the creator being a member of the website is used (Membership_Length). This variable represents the number of days the creator had been a member of Kickstarter at the moment the project finished. The cross-sectional sample includes collected projects that span over a short period of time (see section 4.2). Therefore, to avoid bias towards the early projects, the length of the membership is systematically reduced along the sample with the time between the end date of the project and the sample collection date.

5.5 Community Involvement

To quantify community involvement the following 2 measures are used: number of projects previously backed by the creator (Creator_Backed) and number of comments previously made from the creator (Creator_Comments). The first measure represents the extent to which the creator is supportive in terms of being financially involved towards the online community. The second measure represents the extent to which the creator is supportive in terms of being non-financially involved towards the online community (e.g. sharing ideas, expressing gratitude, seeking for information, etc.).

5.6 Credibility

Credibility is subjective concept and therefore hard to quantify. It cannot be used in direct measures, likewise the previous drivers. Instead, proxies are used to capture the effect of that factor. To quantify image credibility the following proxies are used:

First, the presence of external webpage given as a reference at the user's profile is used as a proxy for image credibility (External_Platform). In the common case those are websites containing project or user related information. It is believed that the existence of external platform assumes independence of the project and leads to higher credibility of the source. Binary variable is used to capture this effect. For refining the variable only platforms outside

certain domains are considered. Full list of all ignored domains is presented in the appendix (to be added).

Secondly, the presence of financial plan is used as a second proxy for image credibility (Financial_Plan). Financial plan implies secure and trustworthy approach for setting the goal amount. To quantify financial plan binary variable is used. Financial plan is set to be true when the goal amount is not a round number. In the common case the presence of exact goal amount assumes having financial plan either supported by an actual one in the project description or implying one. Note that values such as 999\$ or similar have not been considered.

5.7 Request Size

In order to quantify the size of the request the following two measures are used: the funding goal (Goal) and the average amount requested from the funding tiers (Tiers_Avr). For more details on funding tiers see section 4.3. In line with the explanatory nature of the study, the model is expanded by the number of funding tiers attributed to a project (N_Tiers). It is arbitrary whether this complementary variable captures the effect of request sizes, since it relates to the variety of the funding anchors, rather than the size of the request itself. For this reason it is not considered as a measure for request size. However, number of funding tiers will be included in the model both for explanatory and control purposes.

5.8 Dynamics of the Measures

Some measures, related to the individual-level characteristics namely: number of projects previously backed (Creator_Backed), number of comments previously made (Creator_Comments), number of previously successful projects (Previous_Success), number of previously failed projects (Previous_Failure) and Facebook friends (FB_Friends_MCMC) are dynamic in nature. This means that potential changes may have brought differences between the values of the same measures by the time the project had ended and the time the sample had been collected. It is assumed that the potential dynamics are different across different variables and possibly across individuals and segments. However, these differences cannot be

accounted for using a cross-sectional research design. Nonetheless, reducing the time span between the dependent variable and the above measures limits the potential bias. Therefore, the sample includes only projects that have ended in the past two months from the date they were collected. It is believed that two months period is short enough not to lead to some significant changes that may mislead the results.

6 Results

6.1 Descriptive Statistics

The analyzed dataset contains information about 6289 projects. On average the projects were active for the window of 32 days (std.dev. = 10.5). The maximum active window was 60 days, with range 58 days. However, 20% of the projects last for less than 30 days, 50% of the projects last for 30 days, 30% between 31 and 60 days. On average projects rise an amount of 10 576 \$ (std.dev. = 81,915\$). The most pledged project raised the impressive 4,188,927\$ for 31 days and outreached his goal 4.7 times. However, not all projects are being successful, since Kickstarter uses 'All or nothing model'. The average success rate is 1.12 (std.dev. = 4.19), which is slightly over the critical ratio of 1, below which the project fails. Roughly 51% of the initiated were successful and reached their funding goal. 63\$ is the average pledge per person (std.dev. = 86\$) and 2600 \$ is the maximum amount. On average projects have 153 backers (std.dev. = 1193). The average goal set is 28,380\$, having 4 updates, 38 comments and 9 funding tiers. 67% of the projects have their own website and 3% have a financial plan. On average initiators have 0.17 previously successful projects, 0.16 previously failed projects, being members from 248 days, having 743 Facebook friends. Table with descriptive statistics can be found in Appendix 1.

The most initiated projects are in categories Film & Videos and Music, following by Publishing and Art. A histogram with all project categories and subcategories and their share in the sample can be found in Appendix 2. The category with the highest average pledge is Technology (100\$) and the lowest is Comics (44\$). The most successful category is Dance with 81% of the initiated projects being funded and Fashion is the most unsuccessful with 35%. To a great extent simple

statistics from the sample match with statistics officially published at the Kickstarter website (Kickstarter Statistics Jul 14 2013). That crosscheck makes the sample robust and representative, potentially having limited sampling bias.

6.2 Correlation Coefficients

Correlation coefficient matrix is used as an initial sanity check for the underlying conceptual assumptions. Most of the Pearson correlation coefficients show significant relationship between variables. However, significance between most of the variables is deemed to be normal, considering the ample sample size.

The latent variables constructed in the conceptual model are confirmed by the correlation coefficients. Strong correlations between variables assigned to the same latent factor are: the size of the funding goal (Goal) and tiers average (Tiers_Avr) ($r=0.585$, $p<0.01$); number of creator backed projects (Creator_Backed) and number of creator comments (Creator_Comments) ($r=0.510$, $p<0.01$).

Number of days being a member (Membership_Length) and number of creator backed projects (Creator_Backed) are quite strongly correlated ($r=0.452$, $p<0.01$). That is expected, since the longer one is a member of the crowdfunding community the higher the chance to support. However, being simply a member does not always assume being an active member. This may explain the moderately strong correlation between the two variables. Nevertheless, it has been discriminated between membership and involvement and account for interaction between the two.

The strong correlation between number of comments on the project (N_Comments) and number of creator comments (Creator_Comments) ($r=0.796$, $p<0.01$) reveals important relation. The strong correlation index assumes most of the comments on the project page are indeed initiated by the creator. And respectively the majority of the comments related to the creator's profile are comments on his own project. That may include, but is not limited to answering users' questions, requests, updates on the current project status (beyond the official update section), triggering discussions, etc. This finding is not in line with the concept of community

involvement developed in the conceptual model. It seems that by commenting a creator gets involved primarily in his own project, and less in other community projects. Therefore, it is disclosed that the creator's comments are not a proper measure for community involvement, thus is being dropped as such.

A strong correlation was found between number of project updates (N_Updates) and number of creator comments (Creator_Comments) ($r=0.564$, $p<0.01$). It seems that in contribution to updating on the project wall, the creator makes sure that the update is communicated properly to all, by triggering discussions in the comments section. Having in mind that project updates are a strong confounding variable (see correlation matrix in Appendix - 3), communicating them in various ways looks like best practice in managing a crowdfunding project.

A full table of all correlations coefficients can be found in Appendix - 3.

6.3 Regression Models

6.3.1 Validity and Assumptions

Before running the regression model the data was checked for the underlying linearity and normality assumptions, refined from outliers and checked for missing values and multicollinearity issues. The guidelines of Hair et al. (2010) are followed.

6.3.1.1 Normality Assumptions

Normality assumptions are test which empirically examine the shape of the distribution and Q-Q plots for each variable as well as the values for kurtosis and skewness. Normality tests were following the guidelines of Hair et al. (2010). From the skewness values it becomes clear that all variables are heavily positively skewed. After visual inspection of the distribution shape the same was confirmed. The severe non-normality was partly solved using natural logarithm transformation, suggested by Hair et al. (2010). To overcome logarithm of zero and to avoid negative values a constant of 1 is added. In this way the model adapts to the widely accepted

$\ln(X+1)$ transformation on both sides of the equation. Subsequent to the transformation the regression coefficients have to be interpreted as elasticities. After testing the transformed variables there was a significant improvement in the distributions. However, the Kolmogorov-Smirnov tests failed to reject the null hypothesis even after the transformation. This is expected though, since for large sample sizes strict normality tests such as Kolmogorov-Smirnov often fail. Overall, after the transformation most of the variables show no significant deviations from normality. The relative non-normality for some variables is neglected, considering the large sample size. Tables for Skewness and Kurtosis values before and after the transformation, as well as distribution histograms and Q-Q normality plots after the transformation can be found in Appendix 4-5.

6.3.1.2 Linearity Assumptions

Linearity assumptions have been tested examining the residuals normality, as suggested by Hair et al. (2010). Before the logarithm transformation regression residuals have significant deviations from normality. This is shown on the distribution histograms and normal P-P residual plots. After the transformation, normality is decidedly improved. Any deviations from normality after the transformation are neglectable and linearity assumptions are confirmed. Residual histograms and P-P plots before and after the transformation can be found in Appendix 6.

6.3.1.3 Outliers Detection

Due to the log transformation extreme values were significantly reduced. However, some observations might still cause problems when analyzing the data and we want to make sure they are not considered in the analysis. The discussion is based on two broadly applied methods for detecting outliers - outlier labeling rule proposed by Tukey (1977), including the forthcoming modifications of the applied method by Hoaglin (1987) and the deviations from the mean examined by the z-scores of the standardized values. For choosing the right method we investigate for outliers on the dependent variable –Success ratio. Given the fact the distributions are positively skewed only the upper bound outliers are a point of interest. The

outlier labeling rule is used: $Q3+g*(Q3-Q1)$, where $Q1$ and $Q3$ are respectively the 25th and the 75th percentile, and ' g ' is coefficient equals to 2.2 (as discussed by Hoaglin 1987). After the results the dependent variable of Success Ratio has 68 extreme values. When examining the z-scores of the standardized values (for $z < 3.29$) success ratio has 85 extremes. It is clear that both tests do not show any major differences. Dealing with outliers is often based on the author's subjective judgment. Therefore, it was decided that Outlier labeling rule with $g = 2.2$ will be used for all variables in the dataset and the data will not be refined extensively. After the data cleaning 171 cases were deleted, accounting for 2.72% of the original sample size.

6.3.1.4 Missing Values

The only variable that has missing values is Number of Facebook friends. About 69% of the observations have valid values for that variable. This is due to the fact that not all Kickstarter users have Facebook integration on their account. Including the variable with the missing values in the regression model would substantially reduce the sample size. The research aims at capturing the effect on direct ties over the project outcome and FB friends are just a measure to achieve that. The missing values do not assume that direct ties are absent for these observations, they are just not been observed. For this reason the missing values were simulated by Monte Carlo Markov chain (MCMC) method for data imputation. Many studies show no significant difference between MCMC and other imputation methods such as expectation-maximization (EM) algorithm (see Lin (2010)). However, predictive models based on imputed data are generally considered to be more precise than those based on non-imputed data (e.g. replace with the mean). Using the MCMC method, the missing data is considered to be effectively replaced, and thus the sample size is used at its full capacity.

6.3.1.5 Multicollinearity

The regression model was inspected for multicollinearity examining variance inflation factors (VIF). The guidelines of Hair et al. (2010) were used and all the variables in the models have VIF values below the critical threshold of 10. The variables were also checked for direct correlations (see section 6.2). As VIF levels are below the critical values and no strong correlations were

found between the covariates, it was concluded that the regression models were not affected by multicollinearity problems.

6.3.2 Multiple Models

The current section summarizes the results from the two regression models. In the forwarding subsections each model is examined individually. Summary table with the results from both models is presented below.

Table 3 - Multiple Models

| | Model 0 (controls) | | | Model 1 (controls+IV) | | | Model 2 (controls+IV+Reputation) | | |
|----------------------|--------------------|------|---------|-----------------------|------|---------|----------------------------------|------|---------|
| | Standardized Beta | Sig. | t | Standardized Beta | Sig. | t | Standardized Beta | Sig. | t |
| (Constant) | | .000 | 13.132 | | .000 | 13.328 | | .029 | 2.186 |
| LN_Days_Since_End | -.025 | .038 | -2.079 | -.017 | .103 | -1.632 | -.015 | .150 | -1.439 |
| LN_Days_Lasted | -.149 | .000 | -12.213 | -.060 | .000 | -5.391 | -.056 | .000 | -5.092 |
| LN_N_Tiers | .248 | .000 | 19.967 | .257 | .000 | 18.982 | .254 | .000 | 18.851 |
| Games | .019 | .150 | 1.438 | .021 | .086 | 1.716 | .022 | .078 | 1.764 |
| Music | .085 | .000 | 5.628 | .025 | .070 | 1.814 | .020 | .138 | 1.484 |
| Publishing | -.027 | .063 | -1.861 | -.059 | .000 | -4.602 | -.060 | .000 | -4.668 |
| Design | .032 | .016 | 2.406 | .040 | .001 | 3.284 | .041 | .001 | 3.358 |
| Fashion | -.036 | .005 | -2.791 | -.050 | .000 | -4.296 | -.047 | .000 | -4.039 |
| Art | .033 | .019 | 2.354 | -.022 | .076 | -1.776 | -.023 | .066 | -1.838 |
| Technology | .011 | .382 | .875 | .055 | .000 | 4.778 | .054 | .000 | 4.756 |
| Theater | .045 | .000 | 3.494 | .026 | .020 | 2.329 | .023 | .042 | 2.037 |
| Comics | .103 | .000 | 8.072 | .036 | .002 | 3.124 | .038 | .001 | 3.350 |
| Photography | -.009 | .460 | -.739 | -.042 | .000 | -3.783 | -.040 | .000 | -3.616 |
| Food | -.001 | .950 | -.062 | .020 | .092 | 1.684 | .019 | .093 | 1.682 |
| Dance | .057 | .000 | 4.634 | .028 | .009 | 2.605 | .027 | .012 | 2.509 |
| LN_FB_Friends_MCMC | | | | .113 | .000 | 10.193 | .107 | .000 | 9.660 |
| LN_Membership_Length | | | | .035 | .004 | 2.863 | .035 | .003 | 2.931 |
| LN_Creator_Backed | | | | .248 | .000 | 19.357 | .238 | .000 | 18.615 |
| LN_Goal | | | | -.409 | .000 | -28.151 | -.411 | .000 | -28.402 |
| LN_Tiers_Avr | | | | .018 | .253 | 1.144 | .020 | .190 | 1.310 |
| External_Platform | | | | .087 | .000 | 7.835 | .082 | .000 | 7.436 |
| Financial_Plan | | | | -.015 | .148 | -1.446 | -.014 | .178 | -1.348 |
| LN_Reputation_Index | | | | | | | .093 | .000 | 8.621 |
| F | 49.006 | | | 123.428 | | | 122.713 | | |
| df | 6117 | | | 6117 | | | 6177 | | |
| R Square | .108 | | | .308 | | | .317 | | |
| Adjusted R Square | .105 | | | .306 | | | .314 | | |

6.3.2.1 Model 1 Results

The first model includes all variables in the conceptual model and the variables controlled for the validity of the results. In the model 14 controls are added as follows: 12 project categories, project age (Days_Since_End) and number of days the project was opened for funding (Days_Lastest). Note that the number of project updates, the number of project comments and creator's comments (as being highly correlated to project comments, see section 6.2) are not included as controls to avoid overmatching and statistical bias (LaLonde 1986). The hypothesized mediator (Reputation_Index) was not included into that first model. The model is expanded later with the mediator and the effects are discussed accordingly.

The regression equation of the linearized first model is as follows:

$$\ln(\text{Success_Ratio}) = \beta_0 + \beta_1 \ln(\text{FB_Friends}) + \beta_2 \ln(\text{Membership_Length}) + \beta_3 \ln(\text{Creator_Backed}) + \beta_4 \ln(\text{Goal}) + \beta_5 (\text{Website}) + \beta_6 (\text{Financial_Plan}) + \beta_7 \ln(\text{Tiers_Avr}) + \beta_8 \ln(\text{N_Tiers}) + \beta_9 \ln(\text{Days_Since_End}) + \beta_{10} \ln(\text{Days_Lastest}) + \beta_{11} (\text{Games}) + \beta_{12} (\text{Music}) + \beta_{13} (\text{Publishing}) + \beta_{14} (\text{Design}) + \beta_{15} (\text{Fashion}) + \beta_{16} (\text{Art}) + \beta_{17} (\text{Technology}) + \beta_{18} (\text{Theater}) + \beta_{19} (\text{Comics}) + \beta_{20} (\text{Photography}) + \beta_{21} (\text{Food}) + \beta_{22} (\text{Dance}) + e$$

The predictors in Model 1 significantly differ from zero ($F=123, p<0.01$), therefore the model has meaningful statistical interpretation. The adjusted R square indicates that 31% of the variation in the Success Ratio is explained by the variation in the covariates included into the base model. This is satisfactory result considering the measurement limitations and the technological constraints. Taken together the research aims to explain key individual and project-related factors and their effect on the project success and not to construct a full predictive model. It is accounted for the unexplained variation to endogenous factors that cannot be measured or are hard to be quantified (e.g. video appeal, cause dedication, project eagerness, fashion etc.).

Summarizing the base model six out of eight key variables have significant effect on the project success. The most influential variable is the funding goal (Beta=-0.409, $p<0.01$). Financial plan and average tiers amount are not significant predictors. All covariates and the respective coefficients are listed in Table 3. Further discussion on the results is presented in section 7.

6.3.2.2 Model 2 Results

In the second model next to the direct effect of social ties (FB_Friends_MCMC) on the project success the indirect effect through the community reputation (Reputation_Index) is included. Quantifying direct social ties and community reputation is explained in chapters 5.2 and 5.3. Multiple regressions are used to test the mediation model following the guidelines of Hair et al. (2010) and Baron (1986). However, due to statistical limitations one should know that successful mediation may be overlooked using this method (see Baron (1986)). Nonetheless, this is classical approach and the same is used for the current thesis. First, the model was tested for established significant correlations between the constructs. All constructs are significantly correlated as shown in the correlation matrix (see Appendix 3). Next, the model was tested for significant effect of direct social ties (FB_Friends_MCMC) as an input covariate on community reputation index (Reputation_Index) as a predicted variable. In correspondence with the base model (Model 1), it is controlled for all other variables. The number of Facebook friends are shown to be significant predictor for community reputation (Beta=0.068, $p < 0.01$). Finally the initial model (Model 1) was estimated with the community reputation index included to build the secondary model (Model 2). The overall model explanatory power has increased (Adjusted R Square = 0.314) and the model significantly differs from zero ($F=123$, $p < 0.01$).

The effect of Facebook friends on the project success rate is weakened for the second model (Beta=0.107, $p < 0.01$) when controlled for the community reputation, as compared to the first model (Beta=0.113, $p < 0.01$). However, in both models Facebook friends remain significant predictor on the project success rate. This assumes existence of partial mediation effect of community reputation (Reputation_Index) on the effect of direct social ties (FB_Friends_MCMC) on the project outcome. Further discussions are followed in section 7.2.

7 Discussion on the Results

The discussion is based on the results from Model 1 and Model 2 in table 3. Additionally interaction terms are discussed based on complementary models embedded to the appendix. Direct effects from Model 1 are discussed in the sections 7.1, 7.3, 7.4 and 7.5. Direct effects and mediation effects of community reputation from Model 2 are discussed in section 7.2. Project categories and interaction terms are discussed in section 7.6.

7.1 Direct Social Ties

From the base model (Model 1) results it is clear that the number direct social ties (FB_Friends_MCMC) have fairly high direct positive impact on the project success ratio (Beta=0.113, $p < 0.01$). The observation is in line with hypothesis H1, hence the same is accepted. This is possibly because information asymmetry is the main obstacle for entrepreneur to obtain external funding and network tiers are important instrument for overcoming information asymmetry (Shane 2002). In that respect it looks particularly important for a crowdfunding entrepreneur to utilize the power of social network connections, in order to overcome the limited knowledge. Sharing among the direct social network may also create a buzz effect contributed by the 2nd-level, 3rd-level and so forth networks. For that being possible the activity of the network members is important for effective blowout of the message. Therefore, communication beyond simple online social share is necessary for funding activity to be triggered.

7.2 Reputation

In the secondary model (Model 2) the addition of the reputation index (Reputation_Index) indicates fairly strong positive relation with the project outcome (Beta=0.093, $p < 0.05$). A conclusion may be drawn from this that higher reputation index is associated with higher success in the crowdfunding initiative. Hence hypothesis 2a is accepted. Upon decomposition of the reputation index it seems that previous failure, as a measure for negative reputation

weights more (Beta=-0.110, $p<0.01$) than previous success (Beta=0.098, $p<0.01$). This means that funding interest is withdrawn easily, when the creator has negative reputation, as compared to the strengthen effect for a creator with positive reputation. That finding is in line with previous studies that the effect of negative as opposed to positive information is stronger (Fiske 1980). The outcome of this result asserts certain implications on the extend towards which the project creator should give publicity to previous projects. As an example previous successful projects should be used as a reference point for attracting potential investors when promoting a crowdfunding project. In this way the credit is given to the positive creator's reputation which should signal the entrepreneur's strong skills and expertise. On the contrary, publicity to previous failed projects should be limited or given with caution.

The effect of direct social ties (FB_Friends_MCMC) on the project success rate is weakened for the secondary model (Model 2) (Beta=0.107, $p<0.01$) when controlled for the community reputation, as compared to the base model (Model 1) (Beta=0.113, $p<0.01$). In both models (FB_Friends_MCMC) the statistically significant predictor remains and the effect of reputation does not fully displace that relationship. The relative drop in the coefficient for the second model is rather small - 5.3%, hence it is hard to claim that strong mediation exists. Nonetheless, the results support the existence of partial mediation of community reputation on the effect of direct social tiers on the project outcome (see section 6.3.2.2). Hence, hypothesis 2b is accepted with the remark that we observe partial mediation effect. It seems that direct social ties are steady predictor of the project success and reputation does not overshadow their effect. This assumes that reputation acts mainly as a signaling variable for potential investors and has less influence on the information transfer.

7.3 Community Membership and Involvement

7.3.1 Community membership

The length of the community membership (Membership_Length) is fairly weak but significant predictor of the crowdfunding success (Beta=0.035 $p<0.01$). Hence, hypothesis H3 is accepted. The results enforce the idea that group-oriented behavior exists within the crowdfunding

community. Indeed, in-group favoritism occurs between members of the community and senior members seem to be favorably treated. It is likely that senior members have adopted social norms inherent to the community, and as such are being perceived as more valuable members. That asserts certain implications for potential crowdfunding entrepreneurs. They should consider being members of the community enough before initiating a project. Otherwise they would risk being perceived as not consistent members which might potentially reduce the chance to be funded by seniors in the community.

Being simply a senior member does not always assume being an active member as well. However, when tested for interaction terms the effect of community membership (Membership_Length) is not significantly moderated by the community involvement (Creator_Backed) (Beta=-0.100, p=0.114). To avoid multicollinearity between the interaction product term and the independent variables, the same were mean-centered. Despite this the results are consistent and no significant interaction effect was observed in either cases. The regression table can be found in Appendix 7. The results demonstrate that the two main effects act independently and do not interact each other.

7.3.2 Community involvement

Community involvement is a factor aimed at being quantified by two observed variables – previously backed projects (Creator_Backed) and previously commented projects (Creator_Comments). However, as explained in section 6.2, it seems that in the crowdfunding community the creator mostly comments on his own projects, and rarely on others' projects, which is not in line with the concept of community involvement. As a result the measure is not considered in the analysis and therefore the non-financial involvement of the member toward other community members is not explored.

However, the financial involvement in the community quantified by previously backed projects (Creator_Backed) seems to be the third most influential factor (Beta=0.248, p<0.01). Once again, the results support the idea of in-group favoritism. Members of the crowdfunding community are more favorably inclined to financially support other members if the last have

been financially active in the community before. Hence, hypothesis H4 is accepted. This finding asserts some practical implications as well. Crowdfunding members need to consider supporting one or more projects prior to an initiation of their own. Doing so will trigger favorable behavior and empathy from the other members and potentially will lead to a better outcome for their own project.

7.4 Credibility

The presence of a financial plan (Financial_Plan) turns out to be an insignificant predictor for the crowdfunding success (Beta=0.015, $p>0.05$). As such it is not considered as a measure for credibility. However, this is a surprising result, since financial planning has deemed to be an important determinant for forming a credible image of the project. One potential explanation might be that barely 3% of the projects in the sample size have financial plan, thus the observations are not sufficient for the coefficient to reach significance. Another more elaborative explanation is the way the financial plan is communicated. Having a non-round number might indicate a detailed plan on the funds needed to implement the crowdfunding idea. It is implied on the project page. However, if not stated explicitly, the potential donor might never consider the existence of such. An important managerial conclusion should be that whenever having a plan, financial or otherwise it should be communicated properly.

On the other hand the presence of an external platform (External_Platform) used as a project reference seems to be significant predictor of crowdfunding success (Beta=0.087, $p<0.05$). Hence, hypothesis H5 is accepted. The results might indicate that potential investors often seek information outside the crowdfunding platform and refer to external webpages. In this respect having a website, or a blog turns out to be important for potential funders to verify the credibility of the source and to maintain trustworthy image. From a managerial perspective it is worth considering higher exposure to any external sources of information related to the creator, the project or both.

7.5 Request Size

Average amount requested from the funding tiers (Tiers_Avr) is not significant predictor for the crowdfunding success (Beta=0.018, $p>0.05$). However, the number of funding tiers (N_Tiers) have strong significant effect on the project success rate (Beta=0.257, $p<0.01$). It seems that it is not the amount requested from the funding tiers, but rather the variety of funding levels that matters. In fact when the number of funding tiers is not controlled for, the average request is statistically significant positive predictor (Beta=0.145, $p<0.01$). Thus the average amount requested is fully mediated by the number of funding tiers. The results assume that one may rarely think that the project funding tiers are set high, as long as different levels of support exist. It is likely though, potential funders to be tentative in their decision to support once they do not have the proper funding tier. Crowdfunding entrepreneurs should consider variety of support levels available for their projects, from token support to substantial financial backup.

The funding goal (Goal) is the most influential predictor in the model (Beta=-0.409, $p<0.01$). It shows that projects with lower funding goals tend to be more successful on average than projects with higher funding goals. Since projects with lower goals are naturally more likely to reach and outreach the funding goal the results were crosschecked by the implementation of a binary variable for the project success. By using logistic regression model consistent results were observed for the effect of the funding goal on the binary dependent variable (B=-0.692, $p<0.01$). The logistic regression table can be found in Appendix 8. Since the funding goal is a primary measure for the request size hypothesis $H6$ is accepted. This leads to the assumption that higher request size may be perceived as unreasonable, thus investment interest can be withdrawn. In setting the funding goal one must consider significant, yet reasonable target. If possible best practice is to set smaller projects with reasonable goals in a roll rather than set high optimistic target at once. Also widely used are the so called “stretch goals” (Kickstarter Webpage 2013). Those are targets beyond the initial goal if the same is reached. Important managerial implications can be drawn from the above results and potential crowdfunding entrepreneur should always consider these practices when defining the funding goal of their project.

7.6 Project Category

Analysis shows that technology projects are on average more successful than films & video projects (Beta=0.055, $p<0.01$). The same applies also for design, comics, dance and theater. On the contrary fashion and photography projects are significantly less successful than films & video. Games, music, art and food do not differ significantly from video & films category. These results reveal important information for potential crowdfunding entrepreneurs in photography and fashion projects. They should consider the relative difficulty in obtaining funds from the crowd and try to optimize their projects.

Possible moderation effects are explored based on some strong correlations between project categories and independent variables (see Appendix 3). To avoid multicollinearity the variables were mean centered. The full model is presented in Appendix 9. Games category is significant moderator on the number of funding tiers (N_Tiers). This results in game projects with variety of funding levels being significantly more successful (Beta=0.091, $p<0.05$) on average. These results assume that the variety of funding levels is even more important when having a gaming project. The same applies for the community involvement (Creator_Backed) (Beta=0.041, $p<0.05$). Supporters that fund gaming projects seem to be especially sensitive to the creator's past financial involvement in the community. Lastly games are significant moderator on the project goal (Beta=-0.207, $p<0.01$). This shows that many game supporters do not tolerate high goals, so potential entrepreneur in that category should be especially interested in the best practices presented in the previous section.

8 Conclusion

8.1 Research Relevance

The development of online technologies and more particularly the extension of Web 2.0 have made possible typical offline activities to be brought online. This peculiar transformation has

made fundraising possible in an online setting. Nowadays, entrepreneurs instead of approaching banks, venture capitalists or business angels, set online “open calls” in support of their projects. This phenomenon has been referred to as “crowdfunding” or financial support from the public or the ‘crowd’ via internet. The new alternative becomes particularly popular among independent music projects in the beginning of 2006. However, in a few years entrepreneurs see the opening possibilities and now crowdfunding is used for various types of projects from film & video to technology and design. In article from Caldbeck (2012) it has been claimed that the crowdfunding industry reached \$2.8 billion in equity. Nowadays hundreds of crowdfunding platforms exist and their number is exponentially growing. The rapid development stresses the need to better explore the crowdfunding phenomenon and to understand the determinants of success. The current research provides new insights on the crowdfunding, based on empirical findings from the biggest crowdfunding platform in world – Kickstarter.

8.2 Summary of the Findings

The current study adopted literature from marketing, consumer behavioral, managerial and social behavior sciences. A conceptual model is created based on two general classifications: individual-focused factors, which relate to characteristics of the entrepreneur (social ties, reputation, and membership and community involvement) and project-focused factors (image credibility and request size). Additionally, the role of the project categories and existing moderations are explored.

The empirical analysis is based on 6289 projects from the biggest crowdfunding platform Kickstarter.com. The data is indirectly extracted from Kickstarter through the use of 3rd party platform Kicktraq.com. The data collection design consists of 3 layers through which metrics about each project have been scrapped.

The results reveal important aspects of the crowdfunding outcome, with possibly high managerial applications. The most influential predictor is the project goal, which shows that supporters are highly sensitive to the request size. In addition, more funding levels are better

accepted on average than less funding levels. That is especially important when initiating a gaming project, as that category shows to be significant moderator on the funding tiers.

Direct social ties are also significant predictor on the project outcome. The results show that the direct connection network of the entrepreneur is useful tool for overcoming the existing information asymmetry. Moreover, it seems the utilization of the online buzz through social networks is important for crowdfunding entrepreneurship.

The role of the reputation has positive direct effect on the project success. Entrepreneurs with previously good community reputation tend to be more successful. Reputation turns out not to be a strong mediator of the direct network ties, contrary to what was hypothesized. It can be concluded that next to the previously successful record, the role of the social ties is indeed important.

Community membership and involvement are also important determinants of success. The longer the entrepreneur is a member of the crowdfunding platform, the better the chances for a favorable outcome. Similarly, supporters are more favorable towards entrepreneurs that have been financially involved in previous crowdfunding projects. All this supports the idea of in-group favoritism.

The presence of financial plan is not significant predictor of the project outcome and is hard to be used as a measurement for image credibility. Reasonable explanation might be that financial plans are often not communicated properly, so potential supporters do not consider them. The presence of external webpages, however, gives credibility to the source and affects the decision of the potential investor.

8.3 Limitations and Future Research

The conceptual model used in that research is empirically tested entirely by quantitative data. By doing so, some important insights which are otherwise influential drivers for the crowdfunding success might be concealed. Therefore, the use of qualitative research is

recommended to crosscheck the results and the underlying assumptions in order to uncover potential dependencies within the framework.

The statistical model has relatively low exploratory power (31%). This clearly indicates that factors more influential than the ones explored are driving forces behind every successful crowdfunding campaign. Experience shows that many supporters are influenced by the video and picture materials related to the project. Others might be entirely dedicated to the good cause of the project. Third are fascinated by the eagerness of the creator, thus feel the need to support his creativity. Fashion trends might also be important predictors. All these factors possibly interact with each other as well. Unobserved in the current study, they leave room for further research in this direction.

Kickstarter is the biggest crowdfunding platform. Since the results are based on a broad sample from the platform they are considered generalizable for other platforms as well. However, Kickstarter does not allow charity projects and personal causes. The underlying motives for such projects would be entirely different, so as the supporting behavior. In this respect the applications from the current study should be interpreted with caution when it comes to charity projects. However, similar research framework may be applied to platforms supporting charity projects (e.g. startsomegood.com, causes.com) in order to reveal differences in the funding behavior.

The current study uses cross-sectional sample from the crowdfunding platform which provides a snapshot of the projects at the end of the funding period. It would be valuable from a managerial perspective to follow timeline dynamics that uncover insights in the project funding lifecycle.

8.4 Research Contributions

As noted in the beginning the current paper adds up to the research from Evers (2012) and expands his findings by explaining the individual-based factors related to the project entrepreneur, namely direct social ties, community reputation, membership and involvement.

To the best of our knowledge no research so far has examined these aspects of crowdfunding, so it is believed that the current paper contributes to the existing academic lit. Project-related factors such as the project goal and the number of funding tiers are covered by Evers (2012). The current paper confirms the findings from Evers (2012) with regard to the project funding goal. However, the current research found discrepancies in the effect of the number of funding tiers on the project success. Significant positive effect was discovered, whereas Evers (2012) reveals the opposite. These differences are most probably attributed to the different research platforms (as Evers (2012) adopts IndieGoGo) used by the two papers and respectively the differences in the funding behavior. Such dissimilarities should stress the need for diversification in the crowdfunding research, as apparently variety exists and the same should be examined.

8.5 Managerial Implications

Many entrepreneurs find viable alternative to traditional funding means in the face of crowdfunding. Furthermore, the exponential growth of existing crowdfunding platforms provide even bigger and diverse opportunities for those seeking to kick start their ideas. The relative simplicity of crowdfunding makes this new funding mean even more appealing for entrepreneurs and especially for projects smaller in scale. Nevertheless, one should realize that running successful crowdfunding project is not an easy task. It needs proper planning, devotion, entrepreneurial mindset and creative approach.

The current thesis provides valuable managerial insights with regards to the research points examined. Everyone who considers using crowdfunding as a funding alternative should utilize the power of the social network connections. Depending on the crowdfunding platform most of them provide social network integration. This functionality might be especially useful for synchronizing and sharing all the activities with online social networks and helps to create a communication stream for potential investors.

Previous crowdfunding experience might be a strong indication for possessed skills and expertise. However, negative experience would more likely withdraw investment interest to a bigger extent than the uplift from the positive experience. In that respect the entrepreneur

should raise publicity only to previously successful projects, and should try to limit the public exposure of failed project initiatives. It is worth mentioning that such measures are already taken by Kickstarter, as they restrict the exposure of failed projects and in turn increase the exposure of successful ones.

Before initiating a crowdfunding project one should know that the crowdfunding platforms are often seen as online communities, and as such members often behave favorably towards each other and unfavorably towards the outsiders. In that respect adopting social norms and community integration are important steps one should take before starting a project. Involvement in community projects and supporting other's initiatives are worth considering from a prospective crowdfunding entrepreneur. Creating the positive image of a healthy member also requires time that should be planned in advance.

For conveying a credible image, the entrepreneur has to provide external sources of information about his project or ideas, such as other websites, blogs or external groups. However, this has to be approached with caution since such sources sometimes can create negative image of the entrepreneur. Therefore, external feeds should be carefully controlled and utilized whenever possible.

When setting the funding goal the entrepreneurs should know the importance of the task, as this factor is essential determinant for the project success. One must consider significant, yet reasonable target. This target is highly individual for every project and is hard to create a single common rule that applies for all. Nevertheless, this research points out the general trend that projects with higher goals tend to be on average less successful. There are already well established best practices in the field such as the use of "stretch goals" or crating few smaller projects in a roll. It is important, however, that the project entrepreneur becomes acquainted with these and plans his strategy beforehand. Furthermore, when considering Kickstarter as a crowdfunding platform providing higher decision control by the investor by increasing the funding levels is a better strategy than guidance and limited funding levels.

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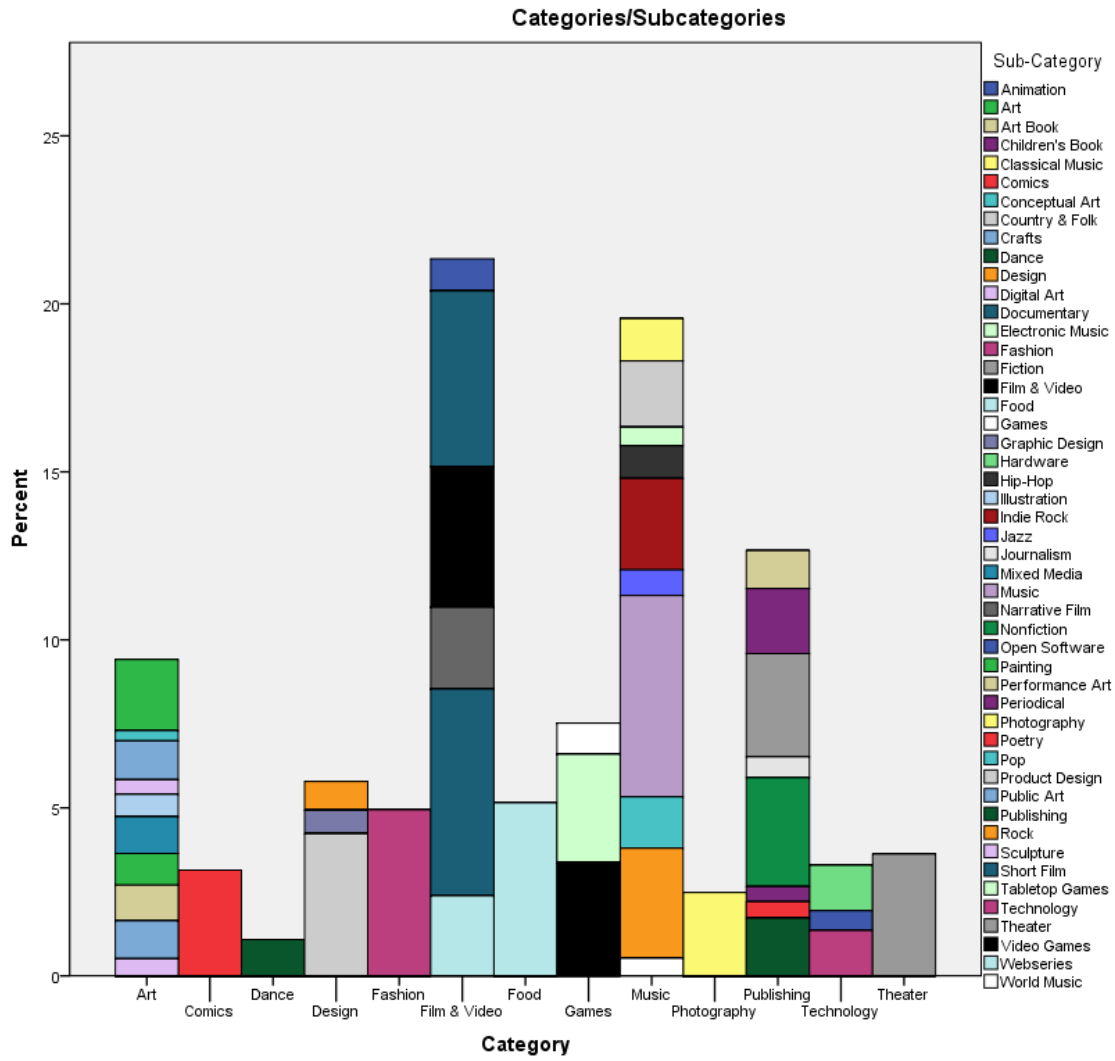
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10 Appendix:

Appendix 1

| Descriptive Statistics | | | | | |
|------------------------|------|---------|----------|----------|----------------|
| | N | Minimum | Maximum | Mean | Std. Deviation |
| Days_Lasted | 6289 | 2 | 60 | 32.22 | 10.51 |
| Pledged | 6289 | 0 | 4188927 | 10576.00 | 81915.06 |
| Goal | 6289 | 1 | 21474836 | 28380.81 | 453713.82 |
| Avr_Pledge | 6289 | 0 | 2600 | 63.60 | 86.23 |
| Success_Ratio | 6289 | 0 | 179 | 1.12 | 4.19 |
| Success | 6289 | 0 | 1 | 0.51 | 0.50 |
| N_Backers | 6289 | 0 | 74405 | 153.08 | 1193.49 |
| N_Updates | 6289 | 0 | 99 | 4.03 | 6.30 |
| N_Comments | 6289 | 0 | 47827 | 38.68 | 861.99 |
| N_Tiers | 6289 | 1 | 89 | 9.13 | 5.82 |
| Tiers_avr | 6289 | 1 | 6750 | 372.07 | 527.55 |
| Tier_range | 6289 | 0 | 9999 | 1964.62 | 2880.31 |
| Tier_max | 6289 | 1 | 10000 | 1973.14 | 2880.24 |
| Tier_min | 6289 | 1 | 599 | 8.53 | 20.26 |
| Previous_success | 6287 | 0 | 25 | 0.17 | 1.08 |
| Previous_failure | 6289 | 0 | 10 | 0.13 | 0.48 |
| Previous_Canceled | 6289 | 0 | 4 | 0.04 | 0.23 |
| Creator_backed | 6289 | 0 | 524 | 2.83 | 9.99 |
| Creator_comments | 6289 | 0 | 1159 | 7.47 | 46.88 |
| Member_since | 6289 | 25 | 1430 | 248.60 | 274.65 |
| FB_friends | 4356 | 0 | 5247 | 743.62 | 864.01 |
| Website | 6289 | 0 | 1 | 0.67 | 0.47 |
| Financial_Plan | 6289 | 0 | 1 | 0.03 | 0.16 |

Appendix 2



Appendix 4

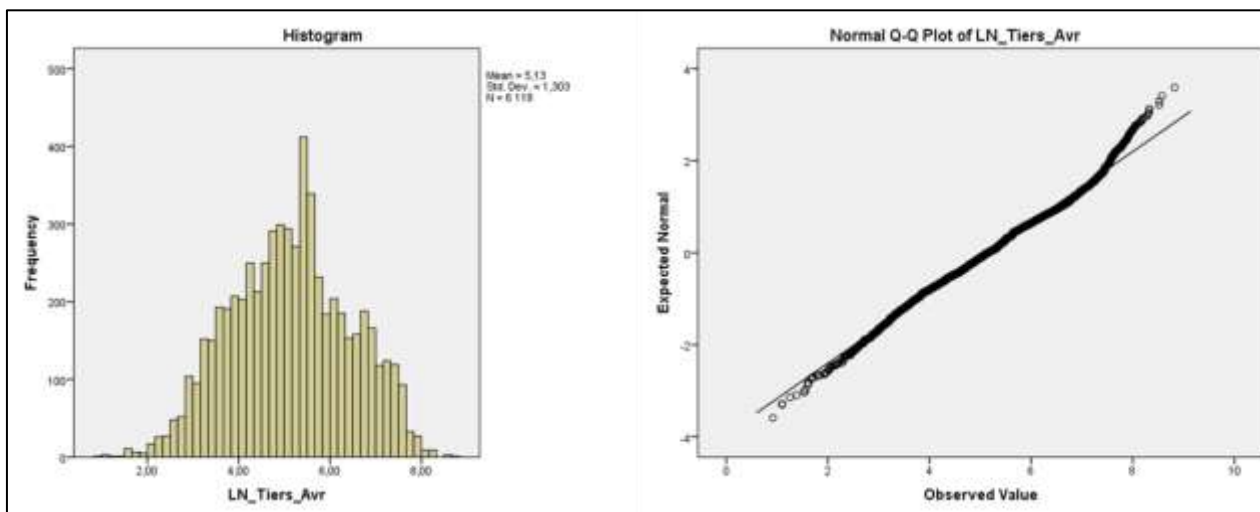
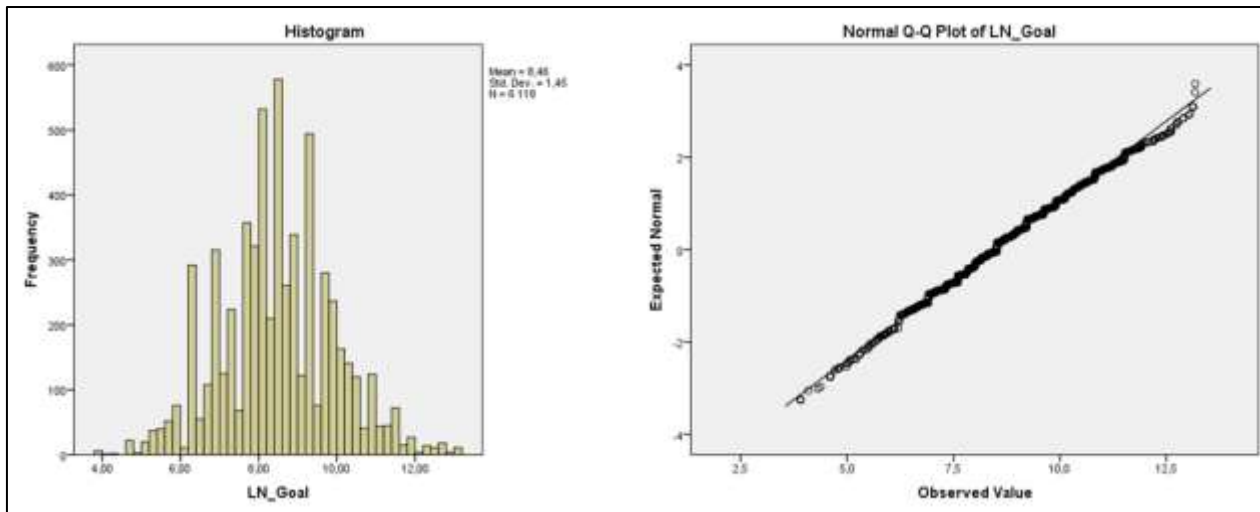
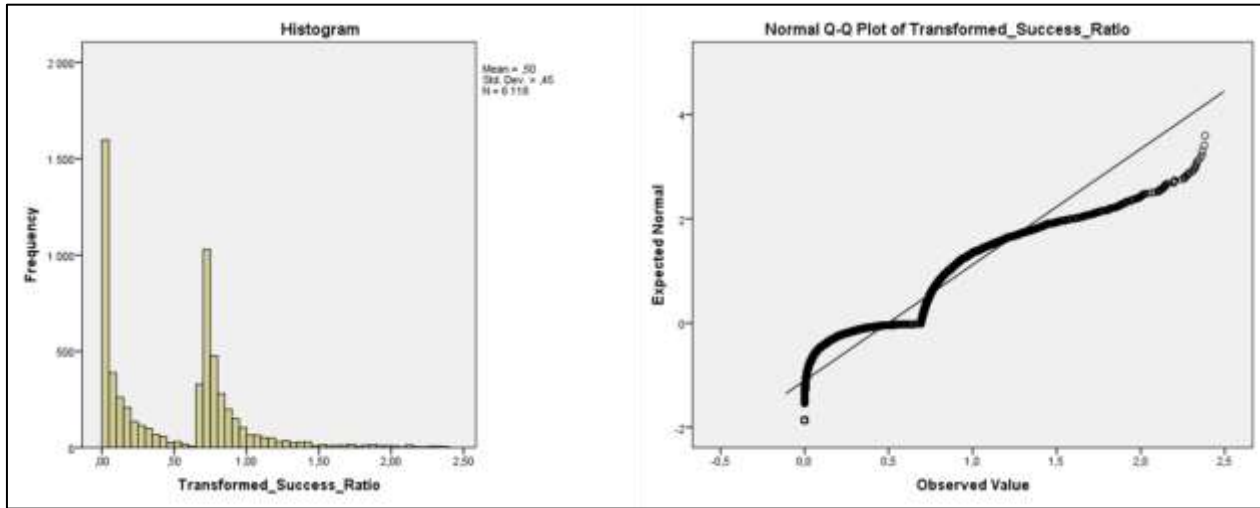
| Descriptive Statistics (before transformation) | | | | | | | | | |
|--|-----------|-----------|-----------|-----------|----------------|---------------|------------|-----------|------------|
| | N | Minimum | Maximum | Mean | Std. Deviation | Skewness | | Kurtosis | |
| | Statistic | Statistic | Statistic | Statistic | Statistic | Statistic | Std. Error | Statistic | Std. Error |
| Success_Ratio | 6118 | 0.00 | 9.84 | 0.84 | 1.08 | 3.358 | .031 | 17.547 | .063 |
| Goal | 6118 | 50.00 | 530000.00 | 14379.55 | 37150.07 | 7.682 | .031 | 76.686 | .063 |
| Tiers_Avr | 6118 | 2.50 | 6750.25 | 370.23 | 520.29 | 3.014 | .031 | 14.055 | .063 |
| N_Tiers | 6118 | 1.00 | 59.00 | 9.05 | 5.57 | 2.041 | .031 | 7.731 | .063 |
| Reputation_Index | 6118 | -7.00 | 19.00 | -0.01 | 0.97 | 9.878 | .031 | 177.859 | .063 |
| Creator_Backed | 6118 | 0.00 | 75.00 | 2.49 | 5.63 | 5.320 | .031 | 39.358 | .063 |
| Creator_Comments | 6118 | 0.00 | 763.00 | 5.18 | 28.77 | 13.440 | .031 | 243.211 | .063 |
| Membership_Length | 6118 | 25.00 | 1430.00 | 246.21 | 272.15 | 1.666 | .031 | 2.252 | .063 |
| FB_Friends_MCMC | 6118 | 16.00 | 5247.00 | 820.57 | 787.85 | 2.370 | .031 | 7.596 | .063 |
| Days_Since_End | 6118 | 0.00 | 60.00 | 28.40 | 17.28 | .107 | .031 | -1.138 | .063 |
| Days_Lasted | 6118 | 3.00 | 60.00 | 32.21 | 10.48 | .993 | .031 | 1.699 | .063 |
| Valid N (listwise) | 6118 | | | | | | | | |

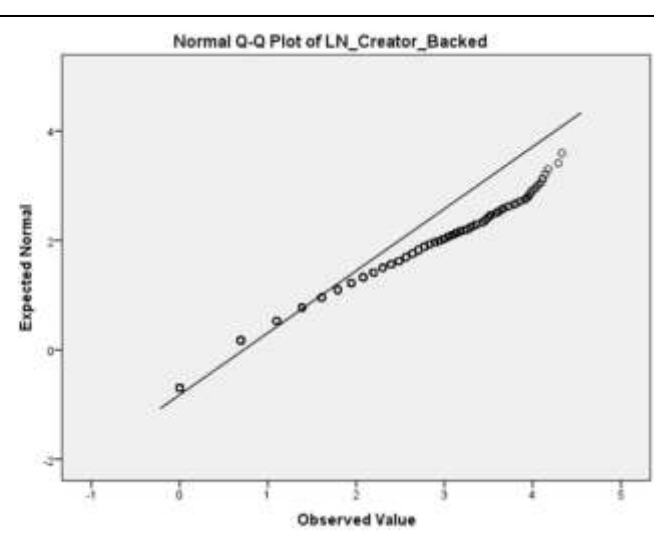
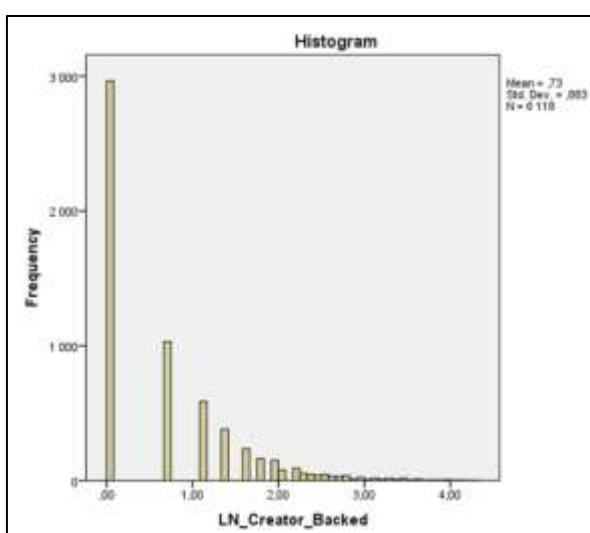
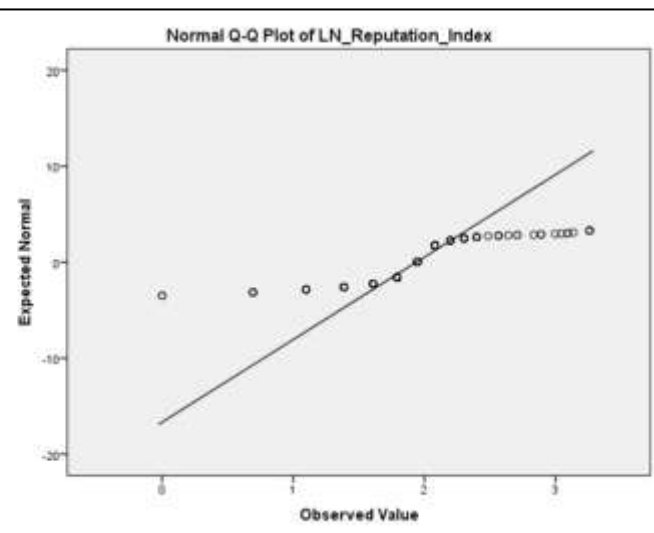
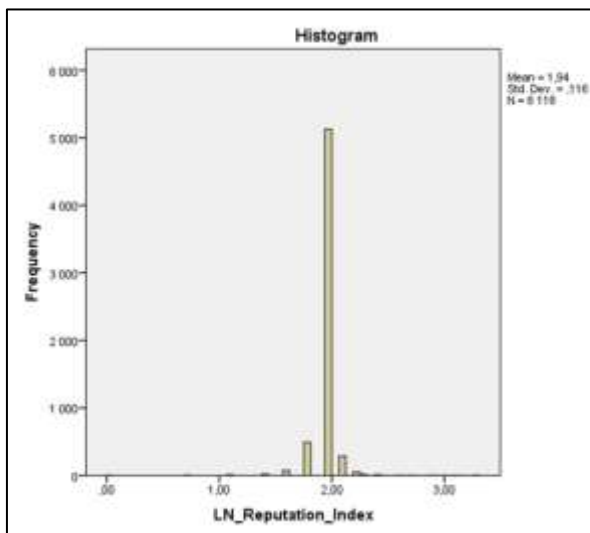
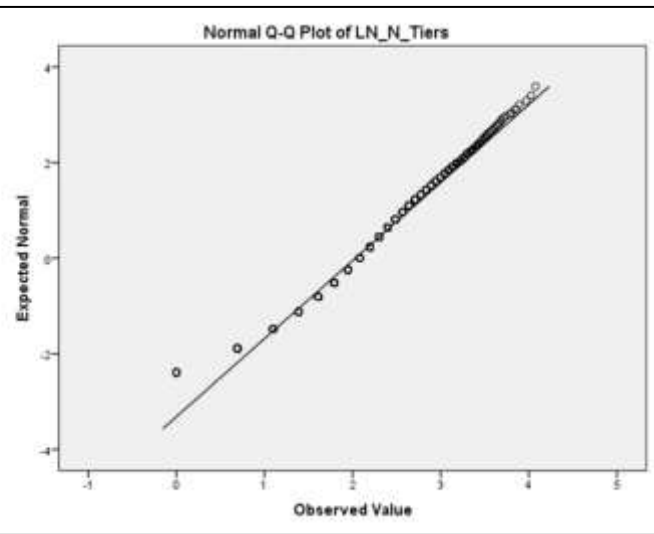
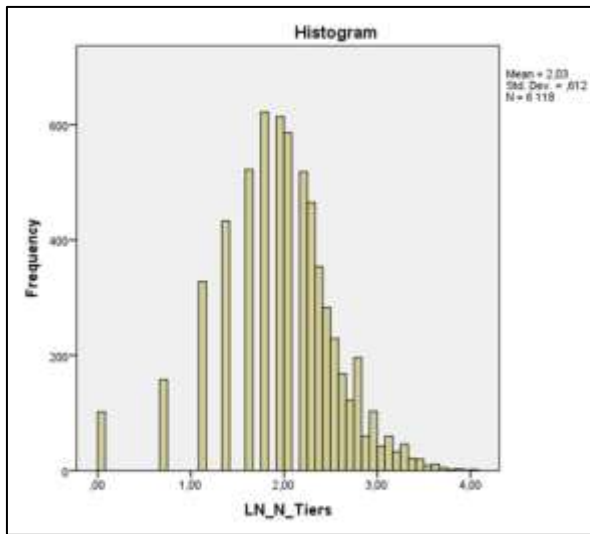
Values outside range of -1 to +1 for Skewness indicate substantially skewed distribution, Source: Joseph H. Hair (2009)

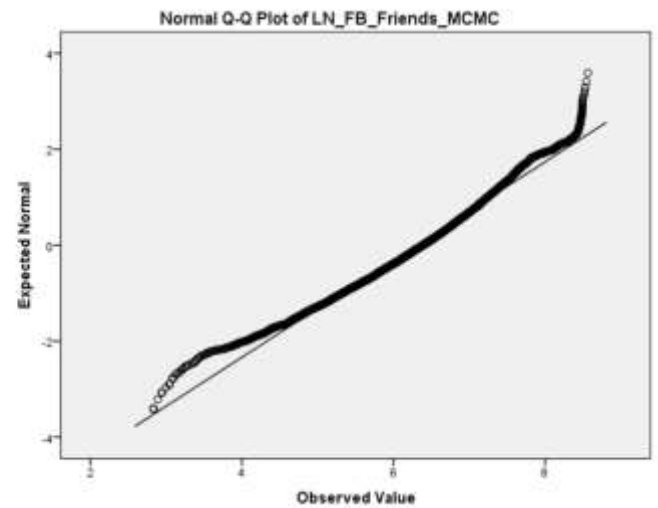
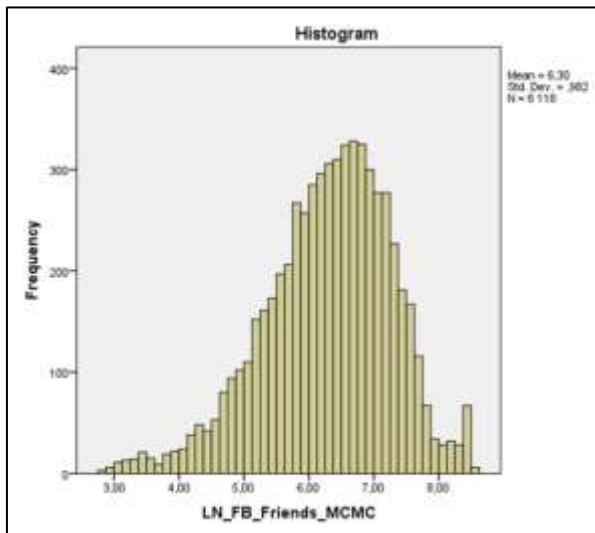
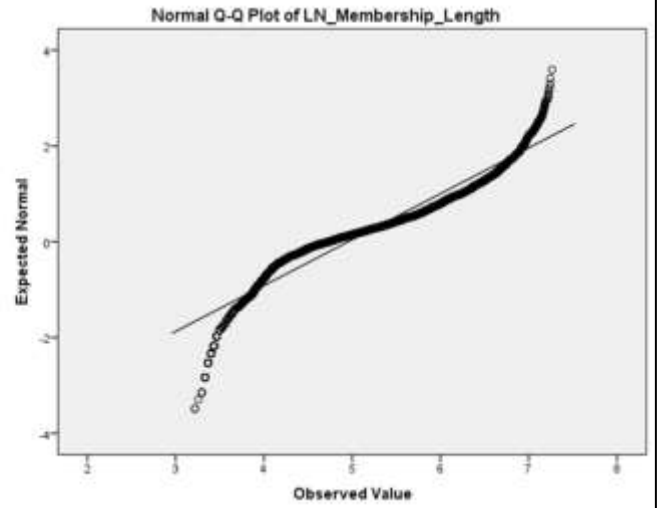
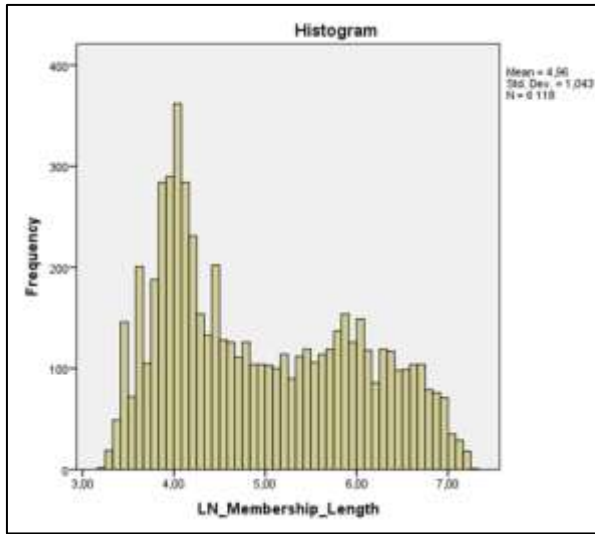
| Descriptive Statistics (after transformation) | | | | | | | | | |
|---|-----------|-----------|-----------|-----------|----------------|---------------|------------|-----------|------------|
| | N | Minimum | Maximum | Mean | Std. Deviation | Skewness | | Kurtosis | |
| | Statistic | Statistic | Statistic | Statistic | Statistic | Statistic | Std. Error | Statistic | Std. Error |
| Transformed_Success_Ratio | 6118 | 0.00 | 2.38 | 0.50 | 0.45 | .772 | .031 | .713 | .063 |
| LN_Goal | 6118 | 3.91 | 13.18 | 8.46 | 1.45 | .117 | .031 | .090 | .063 |
| LN_Tiers_Avr | 6118 | 0.92 | 8.82 | 5.13 | 1.30 | -.034 | .031 | -.509 | .063 |
| LN_N_Tiers | 6118 | 0.00 | 4.08 | 2.03 | 0.61 | -.537 | .031 | 1.151 | .063 |
| LN_Reputation_Index | 6118 | 0.00 | 3.26 | 1.94 | 0.12 | -1.176 | .031 | 66.025 | .063 |
| LN_Creator_Backed | 6118 | 0.00 | 4.33 | 0.73 | 0.88 | 1.142 | .031 | .707 | .063 |
| LN_N_Comments | 6118 | 0.00 | 8.33 | 0.81 | 1.24 | 1.933 | .031 | 4.057 | .063 |
| LN_Membership_Length | 6118 | 3.22 | 7.27 | 4.96 | 1.04 | .375 | .031 | -1.133 | .063 |
| LN_FB_Friends_MC | 6118 | 2.83 | 8.57 | 6.30 | 0.98 | -.508 | .031 | .352 | .063 |
| LN_Days_Since_End | 6118 | 0.00 | 4.11 | 3.11 | 0.87 | -1.175 | .031 | .880 | .063 |
| LN_Days_Lasted | 6118 | 1.39 | 4.11 | 3.45 | 0.33 | -.918 | .031 | 4.219 | .063 |
| Valid N (listwise) | 6118 | | | | | | | | |

Values outside range of -1 to +1 for Skewness indicate substantially skewed distribution, Source: Joseph H. Hair (2009)

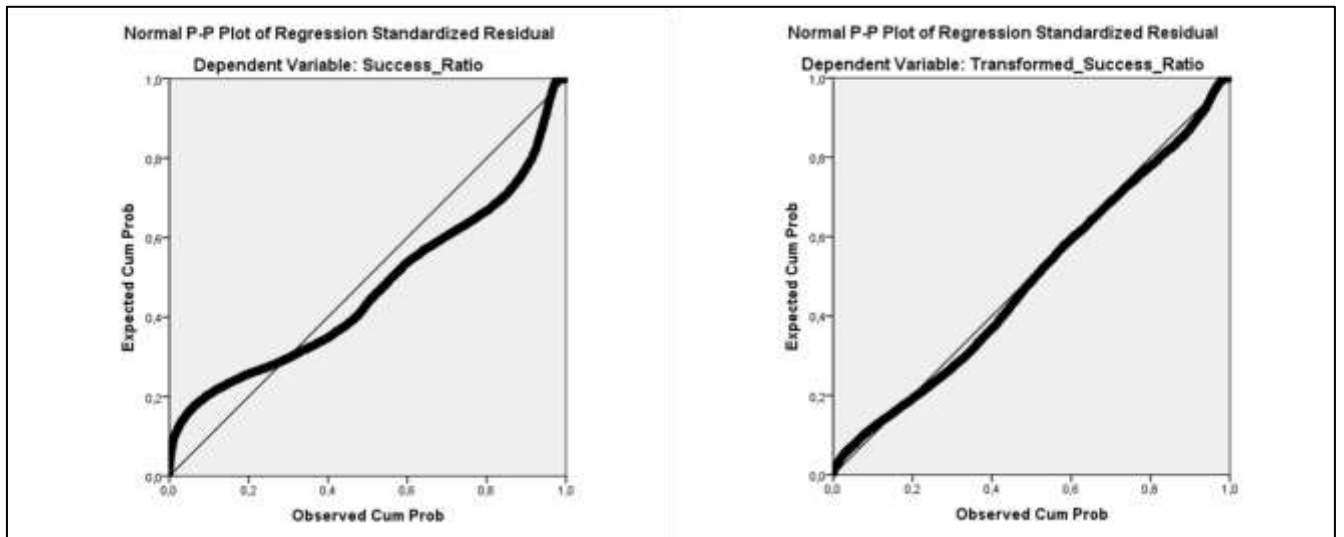
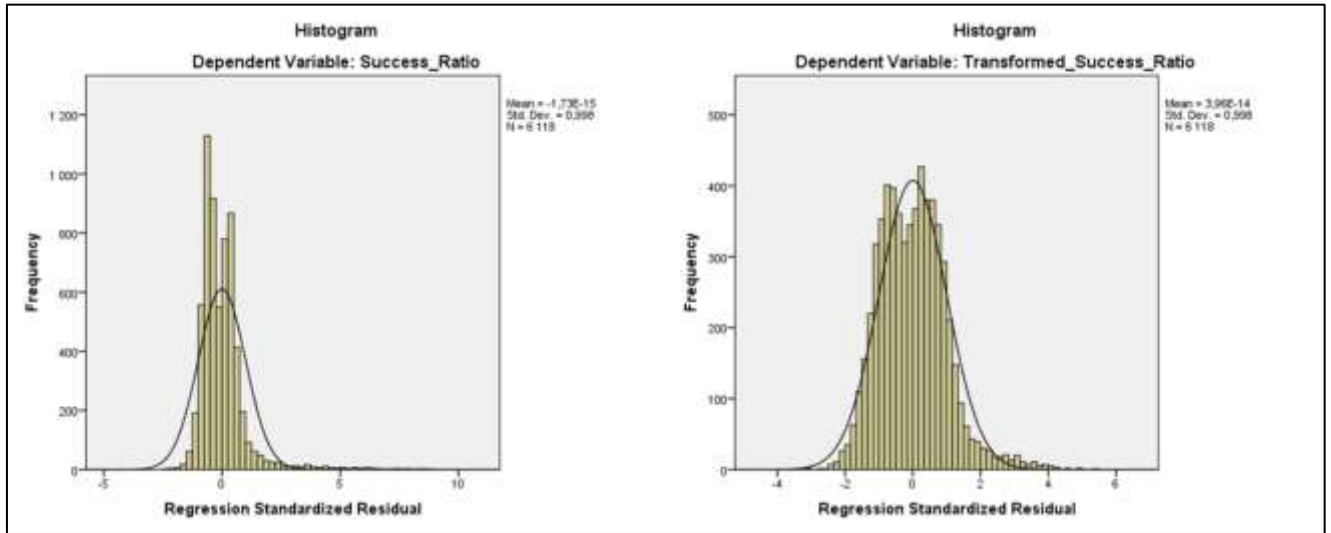
Appendix 5







Appendix 6



Appendix 7

| Interaction Model (Membership and Involvement) | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|--|-----------------------------|------------|------------------------------|---------|------|
| | B | Std. Error | Beta | | |
| (Constant) | .185 | .109 | | 1.698 | .090 |
| LN_Days_Since_End | -.008 | .005 | -.015 | -1.437 | .151 |
| LN_Days_Lasted | -.077 | .015 | -.056 | -5.109 | .000 |
| LN_N_Tiers | .185 | .010 | .252 | 18.724 | .000 |
| Games | .038 | .022 | .022 | 1.758 | .079 |
| Music | .022 | .015 | .020 | 1.470 | .142 |
| Publishing | -.081 | .017 | -.060 | -4.691 | .000 |
| Design | .077 | .024 | .040 | 3.288 | .001 |
| Fashion | -.099 | .024 | -.048 | -4.112 | .000 |
| Art | -.036 | .019 | -.023 | -1.878 | .060 |
| Technology | .138 | .030 | .053 | 4.672 | .000 |
| Theater | .055 | .027 | .023 | 2.027 | .043 |
| Comics | .100 | .030 | .038 | 3.339 | .001 |
| Photography | -.116 | .032 | -.040 | -3.623 | .000 |
| Food | .039 | .024 | .019 | 1.652 | .099 |
| Dance | .116 | .047 | .027 | 2.480 | .013 |
| LN_FB_Friends_MCMC | .049 | .005 | .107 | 9.706 | .000 |
| LN_Membership_Length | .022 | .007 | .050 | 3.284 | .001 |
| LN_Creator_Backed | .168 | .030 | .329 | 5.578 | .000 |
| LN_Goal | -.128 | .004 | -.411 | -28.419 | .000 |
| LN_Tiers_Avr | .007 | .005 | .020 | 1.274 | .203 |
| External_Platform | .078 | .010 | .082 | 7.428 | .000 |
| Financial_Plan | -.040 | .030 | -.014 | -1.333 | .182 |
| LN_Reputation_Index | .368 | .042 | .095 | 8.755 | .000 |
| Membership_Length_Cre ator_Backed | -.008 | .005 | -.100 | -1.581 | .114 |
| Model Summary | F | 117.73 | | | |
| | df | 6117.00 | | | |
| | R Square | 0.32 | | | |
| | Adjusted R Square | 0.31 | | | |

Appendix 8

| Binary Logistic Regression Model | | | | | | |
|--------------------------------------|----------------------|------|---------|----|------|--------|
| | B | S.E. | Wald | df | Sig. | Exp(B) |
| LN_Days_Since_End | -.085 | .035 | 6.017 | 1 | .014 | .919 |
| LN_Days_Lastest | -.555 | .097 | 32.788 | 1 | .000 | .574 |
| LN_N_Tiers | 1.003 | .067 | 221.760 | 1 | .000 | 2.726 |
| Games | -.516 | .138 | 13.954 | 1 | .000 | .597 |
| Music | .315 | .094 | 11.270 | 1 | .001 | 1.371 |
| Publishing | -.691 | .110 | 39.188 | 1 | .000 | .501 |
| Design | -.225 | .149 | 2.280 | 1 | .131 | .798 |
| Fashion | -.954 | .153 | 39.013 | 1 | .000 | .385 |
| Art | -.272 | .116 | 5.505 | 1 | .019 | .762 |
| Technology | -.010 | .191 | .003 | 1 | .958 | .990 |
| Theater | .722 | .171 | 17.886 | 1 | .000 | 2.059 |
| Comics | -.191 | .198 | .935 | 1 | .334 | .826 |
| Photography | -1.012 | .201 | 25.436 | 1 | .000 | .364 |
| Food | .087 | .145 | .365 | 1 | .546 | 1.091 |
| Dance | 1.139 | .332 | 11.790 | 1 | .001 | 3.124 |
| LN_FB_Friends_MCMC | .348 | .033 | 110.534 | 1 | .000 | 1.416 |
| LN_Membership_Length | .059 | .032 | 3.328 | 1 | .068 | 1.061 |
| LN_Creator_Backed | .708 | .043 | 265.216 | 1 | .000 | 2.030 |
| LN_Goal | -.692 | .033 | 452.547 | 1 | .000 | .501 |
| LN_Tiers_Avr | .114 | .035 | 10.837 | 1 | .001 | 1.121 |
| External_Platform | .432 | .066 | 42.741 | 1 | .000 | 1.541 |
| Financial_Plan | .031 | .195 | .026 | 1 | .872 | 1.032 |
| Constant | 2.283 | .436 | 27.370 | 1 | .000 | 9.806 |
| Dependent Variable = Project Success | | | | | | |
| Model Summary | Cox & Snell R Square | .265 | | | | |
| | Nagelkerke R Square | .353 | | | | |
| | % Correct Prediction | 73.1 | | | | |

Appendix 9

| Project Categories Interactions | | | | | | | | | | |
|---------------------------------|-------|---------|-------|---------|-------|---------|-------|---------|-------|---------|
| | Base | | Int. | | Int. | | Int. | | Int. | |
| | Beta | p | Beta | p | Beta | p | Beta | p | Beta | p |
| (Constant) | | .000 | | .000 | | .000 | | .000 | | .000 |
| LN_Days_Since_End | -.017 | .103 | -.018 | .096 | -.017 | .103 | -.017 | .110 | -.018 | .100 |
| LN_Days_Lastest | -.060 | .000 | -.060 | .000 | -.060 | .000 | -.060 | .000 | -.061 | .000 |
| C_LN_N_Tiers | .257 | .000 | .248 | .000 | .257 | .000 | .258 | .000 | .255 | .000 |
| Games | .021 | .086 | -.066 | .152 | .022 | .728 | -.008 | .638 | .224 | .001 |
| Music | .025 | .070 | .025 | .071 | .057 | .485 | .042 | .008 | .026 | .052 |
| Publishing | -.059 | .000 | -.066 | .044 | -.059 | .000 | -.059 | .000 | -.058 | .000 |
| Design | .040 | .001 | .040 | .001 | .040 | .001 | .041 | .001 | .039 | .002 |
| Fashion | -.050 | .000 | -.050 | .000 | -.050 | .000 | -.050 | .000 | -.050 | .000 |
| Art | -.022 | .076 | -.022 | .069 | -.022 | .078 | -.022 | .078 | -.001 | .985 |
| Technology | .055 | .000 | .055 | .000 | .055 | .000 | .055 | .000 | .091 | .146 |
| Theater | .026 | .020 | .026 | .023 | .026 | .020 | .027 | .020 | .027 | .017 |
| Comics | .036 | .002 | -.029 | .554 | .036 | .002 | .041 | .023 | .037 | .001 |
| Photography | -.042 | .000 | -.042 | .000 | -.042 | .000 | -.042 | .000 | -.041 | .000 |
| Food | .020 | .092 | .020 | .087 | .020 | .090 | .020 | .089 | .019 | .105 |
| Dance | .028 | .009 | .028 | .010 | .028 | .009 | .028 | .009 | .029 | .008 |
| C_LN_FB_Friends_MCMC | .113 | .000 | .113 | .000 | .115 | .000 | .114 | .000 | .114 | .000 |
| LN_Membership_Length | .035 | .004 | .035 | .003 | .035 | .004 | .037 | .002 | .034 | .005 |
| C_LN_Creator_Backed | .248 | .000 | .246 | .000 | .248 | .000 | .247 | .000 | .249 | .000 |
| C_LN_Goal | -.409 | .000 | -.409 | .000 | -.409 | .000 | -.410 | .000 | -.396 | .000 |
| LN_Tiers_Avr | .018 | .253 | .018 | .250 | .018 | .251 | .018 | .242 | .017 | .273 |
| External_Platform | .087 | .000 | .087 | .000 | .087 | .000 | .087 | .000 | .086 | .000 |
| Financial_Plan | -.015 | .148 | -.015 | .156 | -.015 | .150 | -.015 | .160 | -.015 | .150 |
| C_LN_N_Tiers_Comics | | | .068 | .169 | | | | | | |
| C_LN_N_Tiers_Games | | | .091 | .049 | | | | | | |
| C_LN_N_Tiers_Publishing | | | .007 | .832 | | | | | | |
| C_LN_FB_Friends_MCMC_Games | | | | | -.001 | .988 | | | | |
| C_LN_FB_Friends_MCMC_Music | | | | | -.033 | .688 | | | | |
| C_LN_Creator_Backed_Games | | | | | | | .041 | .010 | | |
| C_LN_Creator_Backed_Comics | | | | | | | -.007 | .713 | | |
| C_LN_Goal_Games | | | | | | | | | -.207 | .002 |
| C_LN_Goal_Art | | | | | | | | | -.019 | .764 |
| C_LN_Goal_Technology | | | | | | | | | -.039 | .538 |
| Adjusted R Square | | .306 | | .306 | | .305 | | .307 | | .306 |
| F | | 123.428 | | 108.883 | | 113.115 | | 109.358 | | 109.104 |

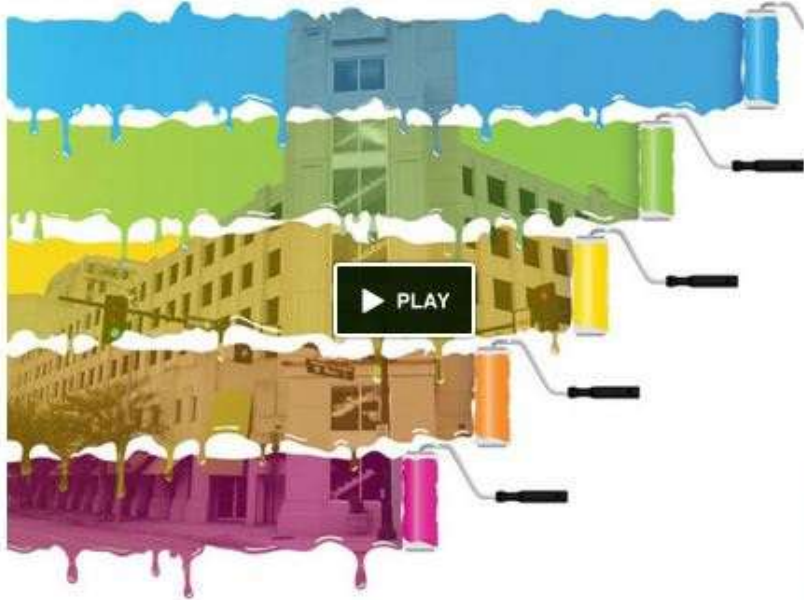
Appendix 10

BR Walls Project

by BATON ROUGE WALLS PROJECT

Home **Updates 9** **Backers 452** **Comments 14** Baton Rouge, LA **Public Art**

Funded! This project successfully raised its funding goal on Apr 27, 2012.



452 backers
\$37,140 pledged of \$25,000 goal
0 seconds to go

Funding period
Mar 12, 2012 - Apr 26, 2012 (45 days)

Project by
Baton Rouge, LA
Contact me

First created : 3 backed
1708 friends
Website: brwallsproject.com
See full bio

Pledge \$7 or more
43 backers
Your name listed as a supporter on www.brwallsproject.com forever! + a Digital copy of the BR Walls Project Video with your name on the credits!
Estimated delivery: Jun 2012

Share 178 Tweet Embed Remind me

The BR Walls Project will transform the dull, beige and grey walls into modern works of art & will enhance BR's visual arts scene.


WHAT IS THE BR WALLS PROJECT?

The mission of the [BR Walls Project](#) is to stimulate creativity and economic growth in our city by having artists paint key landmark walls in our downtown area.

This is a collaborative effort between various artists and progressive communities, including [The Arts Council of Greater Baton Rouge](#), [Baton Rouge Gallery](#), [Mentorship Academy](#), [McGlynn Glisson & Mouton Law Firm](#), [LAMAR Advertising Company](#) & we are adding more to our list every day. The BR Walls Project board is the nucleus for a group of over 50 community leaders, building owners, and artists, all seeking to transform the urban landscape of the city. **Our mission is to foster creativity that inspires community change, unity and growth.** Imagine the faded and empty wall spaces in the downtown area of Baton Rouge transformed into Art. Our organization, the BR Walls Project aims to do just that, but we need your help. The BR

Appendix 11

KICKSTARTER What is Kickstarter? Discover great projects Start your project Search projects



Creator!
Backed 16 projects - San Francisco, CA **Joined March 2011**

I grew up in Minnesota and went to Madison, Wisconsin to study C
construct... [See full bio & links](#)

Capture Camera Clip v2
by Peter Dering - 3rd project
Currently funding!

Backed (16) **Created (3)** **Comments (179)**



Capture Camera Clip v2
by [redacted]

A durable metal clip that lets you carry your camera on any backpack strap, belt or bag. The ultimate tool for all...

Product Design San Francisco, CA

\$687,706 PLEDGED 687% FUNDED **6,834** BACKERS **4** DAYS TO GO

Funded! **Leash and Cuff** by Peak Design



by [redacted]

A versatile, quick connecting camera strap - neck strap, sling strap, safety tether and video stabilizer - all in one.

Product Design San Francisco, CA

\$215,721 PLEDGED 2,157% FUNDED **3,108** BACKERS **FUNDED** DEC 14, 2012