Crowdfunding Success: A Perspective from Social Media and E-Commerce

Completed Research Paper

Michael Beier
Swiss Institute for Entrepreneurship,
University of Applied Science,
HTW Chur, Switzerland
michael.beier@htwchur.ch

Kerstin Wagner
Swiss Institute for Entrepreneurship,
University of Applied Science
HTW Chur, Switzerland
kerstin.wagner@htwchur.ch

Abstract

Crowdfunding as a new way of financing in the web 2.0 has increased over the last years, but only little is known how project initiators increase their chances of successful fundraising through on-page and off-page communication activities. Using a dataset of 740 projects published on one of the dominant crowdfunding platforms in Switzerland, we test communication-related determinants of fundraising success in terms of (1) number of donations (2) average amount of donations and (3) total campaign success. Our results show that high media richness in the project presentation and a high frequency of project updates leverage fundraising success. In contrast, no beneficial effects of the simple application of social media channels could be observed. The implications for research on crowdfunding and practice are discussed.

Keywords: Crowdfunding, Electronic commerce, Social media, Off-/On-Page Communication

Introduction

Beyond the traditional financial resources provided by banks, business angels or venture capital firms, a new method of financing has become established in recent years that raises money online. This form of acquiring capital is called crowdfunding, and it allows ventures and individuals to make a direct call via the internet to the public to raise money from the "crowd" for innovative and new projects (Schwienbacher and Larralde 2012). Crowdfunding is an open call over the internet for the provision of financial resources, either in the form of a donation or in exchange for the future product or other forms of monetary or non-monetary rewards over a fixed time limit (Belleflamme et al. 2013). Crowdfunding and crowdfunding platforms differ significantly in their mode of operation. Different types of crowdfunding have been proposed based on what backers receive in exchange for their contribution (Belleflamme et al. 2014), such as equity shares (equity-based), a product or service or other non-monetary rewards more or less symbolic (reward- and donation-based) or a particular interest rate (lending-based) (Colombo et al. 2015). These three types of crowdfunding feature very different modes of operation and are usually analyzed separately. In this study we focus on only one of these types by particularly analyzing donation- and reward-based crowdfunding. Donation- and reward-based crowdfunding differ in the motives of the project initiators and supporters and therefore are often described separately in the literature (Allison et al. 2015; Gerber et al. 2012; Song et al. 2015). However, in practice, it is difficult to distinguish reward-based crowdfunding from donation-based crowdfunding as campaigns in reward-based platforms combine a wide range of exchange goods ("rewards") with different values. So often in individual campaigns for rather low donations smaller, more symbolic exchange goods are offered (e.g. a Thank-You-email or a postcard) whereas in the same campaign for rather high donations goods with a significant monetary value are offered. Thus, most reward-based crowdfunding platforms and campaigns in these also cover donation-based exchanges.

In early research, crowdfunding has been examined primarily in terms of legal issues and entrepreneurial finance. In connection with the JOBS act, many of the early works on crowdfunding have addressed legal issues, in particular with respect to investment regulations (e.g., Cohn 2012; Fink 2012; Heminway 2012). Other work in the field of entrepreneurial finance mainly focusses on the question how entrepreneurs gather funding via crowdfunding platforms (Belleflamme et al. 2013; Colombo et al. 2015; Macht and Weatherston 2015; Moritz and Block 2014; Mollick 2014). Crowdfunding is discussed as a new form of early-stage finance and an up-and-coming alternative to venture capital financing (Bains et al. 2014). Existing platform-based evidence almost solely stems from the biggest US-based platforms with a global market coverage (primarily Kickstarter and Indiegogo) (Colombo et al. 2015; Kuppuswamy and Bayus 2013; Mollick 2014; Possegga et al. 2015; Qiu 2013; Stadler et al. 2015; Thies et al. 2014; Wessel et al. 2015). However, currently there are more than 800 active online platforms worldwide providing specific features for crowdfunding in respective regional contexts (Ingram et al. 2014). These crowdfunding platforms differ in many ways from the mainly researched platforms from the US. For instance, most of the European crowdfunding platforms only cover their national market, sometimes complemented by some adjacent countries (e.g. startnext, wemakeit, 100-days.net). So far, however, only a few studies have analyzed data from European platforms with a regional market coverage (Agrawal et al. 2013; Beier and Wagner 2015; Crosetto and Regner 2014). Due to regional and national particularities, a more comprehensive crowdfunding research is required, especially with respect to the numerous national and regional crowdfunding platforms worldwide (De Buysere et al 2012; Zilgalvis 2014).

Recent research begins to apply a perspective of online and platform business on crowdfunding. However, to date only few studies have analyzed in crowdfunding platforms mechanisms empirically known from online business. These studies only include single parts of mechanisms of social media and e-commerce into their analyses. We are still lacking an integrated approach developing a consistent and comprehensive perspective expanding the logic of crowdfunding platforms with relevant concepts of social media and e-commerce. In this study we develop such an integrated approach. Based on this enhanced understanding, we propose hypotheses about how on-page (on the platform) and off-page (outside the platform) communication activities increase the likelihood of different success measures in crowdfunding campaigns. We test our hypotheses on a sample of 740 projects from one of the most dominant reward-based crowdfunding platforms in Switzerland (100-days.net). Our results provide a

starting point for an integrated overall model, which can be further developed gradually through future research.

Crowdfunding between Social Media and E-Commerce

In the following section, we develop the theoretical background of the paper and follow the concepts of social media and e-commerce. We adapt these concepts to the crowdfunding context and elaborate an integrated framework of crowdfunding and online communication. By doing so, we describe how online communication and online social relationships are mutually connected and how the logic of e-commerce can help project initiators promote their fundraising success on crowdfunding platforms.

Mixing Elements of Social Media and E-Commerce

Crowdfunding is an open call through the internet for the provision of financial resources. Most entrepreneurs and project initiators are using web-based platforms as intermediaries to promote their start-up or their project to be funded. These crowdfunding platforms basically are specific kinds of social media platforms which have gradually appeared over the last five years (Wu et al. 2013). Social media represent all types of mobile and web-based applications that allow individuals and communities to create, share and modify user generated content through highly interactive platforms (Kaplan and Haenlein 2010; Kietzmann et al. 2011). Social media are built on the ideological and technological concept of Web 2.0, through which all users can create content and connect with each other. This participation by many is in contrast to the beginning of the internet (Web 1.0), where the content of a website was coded by individual protagonists who then published it via a web server. The exchange of information was unidirectional, and recipients could only read information published on websites (Morris and Ogan 1996).

The fundamental shift to web 2.0 has provided web-based services through which users raise funds for an idea, project or business, allowing other users to invest in them on any scale chosen. Crowdfunding platforms as web-based services have standardized the process of raising funds and serve as an information, communication and transaction tool (Belleflamme et al. 2013). Similar to other social media platforms, entrepreneurs and project initiators can present and promote their projects by simply describing them with text and uploading other content formats such as photos, videos, or audio files (Lai and Turban 2008). Depending on the platform concept, funders receive different forms of rewards or other forms of return services. These can include pure donations, non-monetary rewards, pre-ordering, loans, equity or profit sharing. Thereby ca. 45% of crowdfunding is primarily driven by donation- and reward-based funding practices (Belleflamme et al. 2013). Generally, crowdfunding allows social interactions and online connections between users, donors, and the public.

Also, the concept of "e-commerce" does apply to donation- and reward-based crowdfunding activities. This web-based point of sale is closely related to the functionality of crowdfunding because project initiators also intend to "sell" their project, product or service to potential customers. To realize purchases, potential customers must be linked to the project website on the crowdfunding platform just as conventional buyers are in the field of e-commerce. This link occurs by embedding own single content elements in other operators (e.g., search engine marketing, social networks, video platforms, blog posts, guest articles, commentaries). Then, potential customers can be reached or guided with one or two clicks directly to the point of sale, the firm website – or in the case of crowdfunding – the project page on the crowdfunding platform. This e-commerce logic emphasizes two key challenges for firms selling online. Firstly, good external links must be established that potential customers are likely to follow (high "click through rate") (Agrawal et al. 2011). Secondly, the presentation on the product site must be optimized so that visitors at the point of sale will buy with a high probability (high "conversion rate") or a high purchase price (high "average basket value") (Agrawal et al. 2011; Hruschka 2013). The same logic must be applied to lead project campaigns on crowdfunding platforms for successful fundraising.

The Role of Online Communication and Online Relationships

Crowdfunding platforms are social networks that connect different types of people in their roles as initiators, supporters, interested audience or combinations of these. The actions of these people on crowdfunding platforms are social interactions, which are episodes of social relations. Generally, every communication can be differentiated into pure content versus relational aspects of meta-communication

(Dillard et al. 1999; Watzlawick et al. 2011; Watzlawick and Beaver 1967). Thus, communication on crowdfunding platforms provides, on the one hand, relevant information to influence purchasing decisions and the willingness to pay of potential donors on a cognitive level. For instance, the type and amount of information can significantly influence the willingness to pay for a specific good (Kim and Crompton 2001). Additionally, the particular information provided with a product influences the willingness to pay of potential buyers (Ajzen and Driver 1992). In particular, information on the costs to provide a (public) good or service as well as on the benefits a good's consumption offers increase the willingness to pay of potential buyers (Baron and Maxwell 1996). On the other hand, communication on crowdfunding platforms contains emotional and social levels of interaction, which influence potential donors on a relational level. Relational communication again influences – directly or indirectly - purchasing decisions and the willingness to pay of potential donors (Huntley 2006; Liu et al. 2011).

Relational communication about the project also helps to develop social relationships between the initiator and potential supporters (Walther 1992). Supporters develop trust and a deeper understanding of the project initiator and recognize shared goals and attitudes with a higher quality of interaction (Uzzi 1997; Yli-Renko et al. 2001). Additionally, the development of these social relationships motivates potential supporters to provide money to a project because potential donors become emotionally and socially bound to the project or its initiator. This bond creates a felt obligation to help (Zheng et al. 2014). Relationship quality is closely connected to trust and communication, which is especially true for online relationships in e-commerce (Brun et al. 2014). As in many other online markets, trust is another important factor in transactions on crowdfunding platforms (Agrawal et al. 2013). Online trust can be fostered by interaction design. For instance, perceptions and experiences on websites influence people cognitively as well as emotionally (Wang and Emurian 2005). Overall, higher intensity interactions foster the development of stronger social relationships (Heide and Miner 1992; Ready et al. 2004; Swan et al. 1999). Additionally, the quality of social relationships can be positively influenced by the extent and the quality of communication (Moorman et al. 1992).

Summing up, the relationship quality as developed by online communication (whether it happens inside a crowdfunding platform or outside) influences the motivation of potential supporters to spend (more) money on a project. In addition, initiators of projects on crowdfunding platforms need to act like e-commerce sellers. The crowdfunding platform serves as an open e-commerce platform on which anybody can offer goods and services. However, the extent of original "walk-in customers" on such platforms is relatively low. Therefore, each project initiator must generate online traffic for the project on other websites and social media channels (off-page) (Moreno and Martinez 2013). Because crowdfunding platforms are rather standardized in the presentation of projects, project initiators can apply other websites and social media channels to present additional information and content (e.g., video, photo, audio) with an individualized and personal design. Perceptions and experiences on websites influence people cognitively as well as emotionally (Wang and Emurian 2005). Correspondingly, off-page actions primarily serve to generate traffic to the project page on the crowdfunding platform, but they also help to generate trust in the competence and benevolence of the project initiator. Additionally, each project initiator must optimize the presentation on the project page on the crowdfunding platform to improve the purchasing decision of potential donors and to increase the willingness-to-pay for the project.

A New Perspective on Crowdfunding

In analogy to this perspective of donation- and reward-based crowdfunding as online business, recently empirical research moved its focus on online behavior in and outside crowdfunding platforms. First of all, project-related factors have been analyzed empirically. For instance, it has been shown that the funding goal (requested amount from project initiators) of crowdfunding projects has a critical influence on the support decision of potential backers (Kuppuswamy and Bayus 2013). More precisely, the higher the amount requested by project initiators, the lower the overall funding probability becomes (Mollick 2014). In other studies it has been shown that female project initiators have higher success rates in crowdfunding campaigns but also achieve lower funding goals (Marom et al 2015, Possega et al. 2015). Also, regional aspects of crowdfunding campaigns (like the distance between project location and backer's location) influence backer behavior (Agrawal et al. 2011). Other studies examined different motives to use crowdfunding platforms (Allison et al. 2015; Gerber et al. 2012; Song et al. 2015).

In the field of complex social influences and resulting social emergent behavior comprehensive theories from online business have already been applied to crowdfunding platforms. Social mechanisms concern the social interplay of backers with other backers on the project page of the crowdfunding platform. At the time of project start the project page in a crowdfunding platform only shows information about the crowdfunding project itself as provided by the project initiator. As donations made by other backers are visible in crowdfunding platforms, the initial, pure project information will be extended by additional social information during a crowdfunding campaign. In this way, visitors of a project page on a crowdfunding platform are influenced by the information about numbers and sums of donations representing the behavior of previous visitors of the project page. Referring to this, first research identified some kinds of social proof and herding effects in crowdfunding campaigns on Kickstarter and Indiegogo (Gerber et al. 2012; Stadler et al. 2015). Social proof and herding are social default tactics applied in situations where ambiguous settings are complemented by observable behavior of other actors in the same situation (Lee and Lee 2012). Lacking a clear decision because of missing or ambiguous information people tend to rely on a default mechanism just following the observable behavior of others in the same context (Duan et al. 2009). Herding effects are common in settings of online-communication, commerce and finance. They have already been investigated empirically in peer-to-peer lending (Lee and Lee 2012; Herzenstein et al. 2011), online purchasing (Chen 2008), online auctions (Dholakia et al 2002; 56), and download portals (Duan et al. 2005). Recent research transfers the known mechanism from other online businesses to crowdfunding.

Another set of studies already analyzed some mechanisms of online business in crowdfunding and how they influence crowdfunding success. As done in the field of online traffic generation (e.g., search engine optimization, web accessibility, online marketing), potential influences on the success of projects in crowdfunding platforms can be differentiated into on-page features versus off-page features (Malaga 2008; Moreno and Martinez 2013). On the one hand, "off-page" activities have been analyzed which influence users to enter a concrete project page on a crowdfunding platform. For instance, empirical findings show positive influences of project mentions on the central homepage of the crowdfunding platform (Qiu 2013), activation of the personal network (Agrawal et al. 2013), a high number of connections in social online networks (Giudici et al. 2013), and online connections of the project page with social media channels (Mollick 2014; Thies et al. 2014) on campaign success. On the other hand, "on-page" activities have been analyzed, which influence visitors on a project page to spend money for the project. Also with regard to this kind of actions respective success factors have already been detected empirically; like the quality of project presentations, the application of online videos and the frequent publication of project updates on the project page in the crowdfunding platform (Kuppuswamy and Bayus 2013; Mollick 2014). However, we are still lacking empirical research following a comprehensive approach of donation- and reward-based crowdfunding as online business, systematically including mechanisms of on-page and off-page communication.

Hypotheses Development

In the following section, we therefore apply the logic of online traffic in e-commerce and develop hypotheses on how crowdfunding success can be fostered by means of online communication:

On-Page Communication

On the crowdfunding platform, project initiators generally have two opportunities to communicate with their target groups. First, they can initially present their project on a standardized project page (initial project presentation). Second, project initiators can add updates to this page during the progress of the crowdfunding campaign (project updates).

Project Presentation

Media richness theory in general classifies the influence of applied media types on interaction and relationship quality by their different potential, offering (1) an opportunity for direct feedback, (2) communication on multiple cues (e.g., including text, audio, voice, gestures, words, etc.), (3) inclusion of various language types and (4) the transfer of personal feelings and emotions (Daft et al. 1987). The basic concept stated that media of higher richness can better change mutual understanding over a given time

period (Daft and Lengel 1986). The original concept classified classical media by its media richness, starting with face-to-face interaction with the highest media richness through telephone to text documents (Daft et al. 1987). Today, the perspective of media richness has been adapted to the challenges and opportunities of online communication (Lodhia 2012). The modern concept switched its focus to gradual differences between simple text and interactive multimedia applications (Palmer 2002). With respect to this development, differences between the three most common content formats in online communication - text, photos and video - are of particular interest (Sun and Cheng 2007). Videos have the highest level of media richness and should help to interact best on a cognitive as well as emotional level of communication (Liu et al. 2009). Videos are increasingly used by companies on the internet as an essential component of the media mix to optimize their online communication. This use is primarily justified by the special properties of videos as a medium. Thus, video-based communication is generally considered to be the richest form of media communication. In comparison to text and images, videos can better communicate personalized and emotional facets of messages (Gao et al. 2010; Rockmann and Northcraft 2008). Via videos, several levels of communication can be conducted in parallel (Dennis and Kinney 1998). Also in social media and social networks, the application of videos offers enormous advantages because this content format is frequently forwarded by users (Baresch et al. 2011). In particular, it has already been observed that communication via video leads to higher trust by the recipients. This trust refers both to affective trust, in the sense of benevolence as adopted by the sender, and cognitive trust, which refers to adopting the same understanding about a topic (Rockmann and Northcraft 2008). First exploratory results concerning crowdfunding platforms show that a video within the project presentation can additionally motivate a potential donor to give money to a project and that projects with a video within the project presentation are more often successfully funded (Kuppuswamy and Bayus 2013). However, in the respective exploratory studies, videos have been interpreted as measures of project quality in crowdfunding platforms (Kuppuswamy and Bayus 2013; Mollick 2014). In this study we focus on the enhanced communication capabilities of videos in the context of different levels of media richness. In general the application of specific content formats (text, photos, video) will enhance the quality of communication depending on the content's media richness. Therefore, the following can be proposed:

> ***H1:*** *The media richness of the initial project presentation on the crowdfunding platform is positively related to the crowdfunding success of a project*

Project Updates

In addition to media richness, the frequency of communication is of crucial relevance to an effective information exchange. It plays a particularly important role in establishing social relationships with potential and actual project supporters. Generally, frequent communication increases confidence in the benevolence of others and a shared understanding for collaborations on specific topics (Cohen et al. 2010; Fisher et al. 1997). Frequency of interaction is also one crucial aspect of communication intensity. Therefore, high frequency content provision fosters social relationship building (Heide and Miner 1992; Pinto and Pinto 1990; Smith et al. 1994). Frequent interactions also are a well-established measure of relationship quality (e.g., Gibbons 2004; Granovetter 1973; Hansen et al. 2005; Reagans and McEvily 2003). First exploratory results show that updates on crowdfunding projects can motivate a potential donor to give money to a project (Kuppuswamy and Bayus 2013). Additionally, quick updates within the first three days of a campaign launch are positively correlated with fundraising success for projects with relatively high funding goals (Mollick 2014). Also, success of website usability is significantly related to content sufficiency, which includes the amount and variety of information (Palmer, 2002). A wide range of provided online information can be used by stakeholders in their decisions (information sufficiency). The extent of written communication is supposed to influence social relationship building (Ready et al. 2004; Swan et al. 1999; Swanson 1970). Summing up it can be expected, that a higher frequency of project updates with recent information on the actual development status of a crowdfunding project will have beneficial effects on purchasing decisions and the willingness to pay of potential donors supporters. Correspondingly, we propose the following:

> ***H2:*** *The frequency of project updates on the crowdfunding platform is positively related to the crowdfunding success of a project*

Off-Page Communication

Next to communication on the project page of the crowdfunding platform, project initiators can use additional communication channels that they initiate and operate on their own. First, additional social media platforms help to reach more people and to inform them about the project. Second, an own website also helps to inform about the project and ongoing activities in an individual way.

Social Media

The use of additional social media platforms helps project initiators to reach and establish further new, although weak, contacts. Most project initiators realize that it is useful to establish and link a large number of contacts on their social media pages before they start their crowdfunding campaign. Correspondingly, the number of Facebook friends of project initiators are seen as a success factor in crowdfunding campaigns as a means of social capital for the project (Giudici et al. 2013). Therefore, social media platforms (especially Facebook and Twitter) can be valuable tools for word-of-mouth marketing in online infrastructures (Groeger and Buttle 2014). Additionally, Facebook pages and Twitter profiles are valuable instruments for reaching prospective buyers within an anonymous but public mass (Klinger 2013). Moreover, social media can increase the quality of interaction. From a media capacity theory perspective, social media channels in particular enhance the potential for direct feedback, for the mixed use of nonverbal and verbal interaction forms and for messages (Montoya et al. 2009). For this reason, most crowdfunding platforms provide the opportunity to link from project pages to profiles in other social media channels (especially Facebook and Twitter).

The use of additional social media platforms with the crowdfunding project page helps to increase its reach and fosters quality communication with prospective donors. Thus, it can positively influence the number of prospective donors for a project, their purchase decision and their willingness to pay. Concerning application of additional Twitter accounts in crowdfunding projects a first exploratory study in the tourism sector already showed a positive relationship on the total success of crowdfunding campaigns (Beier and Wagner 2014). Correspondingly, we propose the following:

> ***H3:*** *The application of social media channels additional to the project page on the crowdfunding platform is positively related to the crowdfunding success of a project*

Homepage

Similar to the use of social media platforms, an own additional website for the project might influence the fundraising activities on the crowdfunding platform. The homepage, too, can generate traffic to the project page and enhance communication with stakeholders. However, in detail, the influences are quite different.

For instance, a firm website with high traffic can provide useful information, especially for target groups without widespread use of social media. A homepage can therefore be useful to reach prospective donors and can enhance the quality of interaction. A homepage is particularly useful because it offers an alternative, customized design for project presentation and allows individual communication with the stakeholders. The effect is increased trust and perceived proximity (Wang and Emurian 2005). Furthermore, a high quality homepage and content are important signals of competence and reputation. E-commerce companies use these effects to let their firm appear bigger via their homepage, which increases the perceived trustworthiness (Jarvenpaa et al. 2000). Moreover, the quality of the homepage influences the willingness to pay as well as the intention to purchase on online platforms (Gregg and Walczak 2010).

Both methods for generating traffic and improving communication depend on the set-up, the quality and the use of the website. It can be assumed that a significant share of project initiators can generate positive effects in terms of reach and communication quality by establishing an individual homepage in addition to the project page on the crowdfunding platform. This homepage could create benefits in terms of willingness to pay and purchase intentions, therefore supporting crowdfunding success. Correspondingly, we propose the following:

H4: *A homepage additional to the project page on the crowdfunding platform is positively related to the crowdfunding success of a project*

Data and Method

To test our hypotheses, we use data from the crowdfunding platform 100-days.net, which is one of the dominant crowdfunding platforms in Switzerland. The platform is specialized on donation- and reward-based crowdfunding campaigns. 100-days.net follows the dominant approach of crowdfunding, the "all or nothing" model, which means that the collected pledge money is only given to the project initiator if the full sum of the campaign is collected within the campaign duration. As the name suggests, all campaigns on the platform have a standardized duration of 100 days. The platform was initiated in February 2012. By the end of October 2014, more than 2000 projects had been uploaded on the platform. However, only published and completed projects (over 100 days) were included in the dataset. Correspondingly, the dataset includes 740 crowdfunding projects that have been started and completed on the platform between 2012/02/16 and 2014/06/27.

Independent Variables

With respect to on-page communication, we measure the media richness of the project presentation using two items: As all projects have text-based descriptions in their profile pages we define this as a minimum level of media richness in the data set. Setting up on this base line we measure the number of photos included in the project presentation (PHOTO) as a first level of advanced media richness. On a second higher level of media richness, we apply a dummy variable (VIDEO), taking the value one if the project presentation includes a video. Correspondingly to recent conceptualizations the application of online videos means the highest level of media richness in the given setting of communication in a crowdfunding platform (Liu et al. 2009). Whereas on 100-days.net the project presentation can consist as many photos as the project initiators upload it can only consist one video. Therefore, the video variable is dummy coded. The frequency of project updates (UPDATES) is measured by the number of updates published on the crowdfunding platform during the whole fundraising period of each project (100 days).

The variables for off-page communication are dummy variables taking the value one if the project page showed a link to a homepage (HP), a Facebook profile (FB) or a Twitter account (TW). Similar to other crowdfunding platforms, 100-days.net offers the potential for project initiators to define an external website, a Facebook account and a Twitter account for the project. This information is then displayed on the project page (including a link the external page or service). Accordingly, our dataset only includes information about external websites and accounts that have been registered on the project page in the crowdfunding platform. With Facebook and Twitter we test our social media hypothesis for two different social media channels because both channels show some differences in their mode of operation. Most important, Facebook as a social network is stronger relationship oriented. In contrast, Twitter is more positioned as an open micro blogging network allowing a more proactive and open distribution of messages (Hughes et al. 2012; Smith et al. 2012).

Dependent Variables

In our study, we apply three different measures in the context of success in crowdfunding campaigns:

First, we apply the most common measure of crowdfunding success in entrepreneurship and finance oriented studies, which is the overall successful completion of a crowdfunding campaign (Mollick 2014). We use a dummy variable "**Crowdfunding Successful**", which measures whether a crowdfunding campaign has successfully achieved its defined funding goal or not. The dummy variable takes the value one if the project has been successfully funded and zero otherwise.

Second, we apply two additional measures based on the fundamental logics of e-commerce described above, covering more fine-grained success patterns in crowdfunding campaigns. On the one hand, we measure the "**Number of Donations**", which is closely related to the basic logic of purchase intentions of potential supporters. This measure covers the number of donations each crowdfunding campaign had collected at the end of the campaign duration. On the other hand, we use the "**Average Amount of Donations**", in accordance to the e-commerce measures of "willingness to pay" and "average basket

value". This measure is calculated for each crowdfunding campaign as the sum of all donations of the campaign divided by the number of donations.

Controls

In addition, we include several control variables in our study that might affect success in crowdfunding campaigns. Recent studies suggest that regional and national aspects can influence the donation decision of potential donors (Agrawal et al. 2013; Agrawal et al. 2011); we therefore control for potential influences using the currency of the project and the used language. Both variables are dummy coded. Therefore, (CURRENCY) takes the value one if the project is listed in the national currency of Switzerland (Swiss Francs). Analogously, (LANGUAGE) takes the value one if the project is listed in German.

The primary initiator of a project can register as a private person or a company. We expected differences between projects from private persons and companies when accessing potential donors and their reaction. To control for these differences, we apply a dummy variable taking the value one if the primary initiator of the project is a company (COMPANY).

The ability to set-up an entrepreneurial project and establish a network of supporters is influenced by the number of team members on the project (Batjargal 2006; Lechler 2001; Semrau and Beier 2015). Moreover, entrepreneurial projects are evaluated from outside with respect to the number and skills of its team members (Baum and Silverman 2004; Franke et al. 2008). Therefore, we control for the number of initiators of a project (INITIATORS).

The funding goal (requested amount from project initiators) of crowdfunding projects has a critical influence on the decision of potential donors (Kuppuswamy and Bayus 2013). Moreover, the higher the amount requested by project initiators, the lower the overall funding probability becomes (Mollick 2014). Correspondingly, we control for the funding goal (GOAL). Additionally, funding goal has to be controlled for its influences on the potential to attract donors as well as on their willingness to pay (Baron and Maxwell 1996).

Crowdfunding can be applied to various types of project domains, e.g., books, music, movie making, software, or games. These domains have their own project contexts and communities. Therefore, crowdfunding platforms allow for the segmentation of projects by project category. Because projects may differ between the categories, we also control for the 31 project categories in the platform 100-days.net. We use category 1 ("Education & Science") as the reference category. In our analyses we include dummy variables for the other 30 categories (CAT02 – CAT31) and display their topics.

Analytical Approach

We test our hypotheses by means of regression analyses, combining methods of linear regression analysis and binary logistic regression analysis. As recommended by Aiken and West (1991) and Frazier et al. (2004), we mean-center and standardize the control variables as well as the independent variables to account for different measurement scales. For each of the three dependent variables, we calculate a separate model. For the metric dependent variables "Number of Donations" (Model A) and "Average Amount of Donation" (Model B), we compute linear regression models. For the binary dependent variable "Crowdfunding Successful", we apply a binary logistic regression model (Model C). Computing each model in our regression analyses, we first enter the control variables (Step 1) and then include our independent variables in a second step (Step 2).

Results

In this section, some descriptive statistics and the regression results are presented:

Descriptive Results

Descriptive statistics are provided in table 1. The results show that most of the projects are listed in Swiss Francs and in the German language (in each case 91 percent). A total of 57 percent of the projects in the sample are initiated by companies versus 43 percent by private persons; most of these are established by a

single person. The highest funding goal is 75,000 Swiss Francs, whereas the mean value is just below 7,200 Swiss Francs.

All projects apply at least one picture in their project presentation; the maximum number of included pictures is 6 and the mean is 3.24 pictures. Video is used by 57 percent of the projects for their initial presentation on the project page. The frequency of project updates ranges up to 94 updates during 100 days. On average, the project initiators publish 4.7 updates during their crowdfunding campaign. 78 percent of the projects apply an additional Facebook account, whereas only 23 percent of the projects apply an additional Twitter account. 74 percent of the projects apply an additional homepage.

Projects on the crowdfunding platform receive between 0 and 201 donations, with an average of 18.59 donations. The maximum amount for single donations is 3,000 Swiss Francs, whereas the mean is 130. However, only 632 of 740 crowdfunding campaigns received at least one donation. What means that 108 of the crowdfunding campaigns (15 percent) did not collect a single donation. Projects in the platform have an overall success rate of 42 percent. This rate is comparable to other international crowdfunding platforms, especially to Kickstarter (Mollick 2014; TechCrunch 2013).

Table 1. Descriptive Results

	N	**MIN**	**MAX**	**MEAN**	**STDV**
CURRENCY	740	0	1	0.91	0.28
LANGUAGE	740	0	1	0.91	0.29
COMPANY	740	0	1	0.57	0.50
INITIATORS	740	1	12	1.46	1.11
GOAL	740	100.00	75'000.00	7'184.51	8'764.77
PHOTO (H1)	740	1	6	3.24	2.06
VIDEO (H1)	740	0	1	0.57	0.50
UPDATES (H2)	740	0	94	4.70	7.72
FB (H3)	740	0	1	0.78	0.41
TW (H3)	740	0	1	0.23	0.42
HP (H4)	740	0	1	0.74	0.44
Number of Donations	740	0	201	18.59	26.36
Avg. Amount of Donations	632	15.00	3'000.00	129.60	174.68
Crowdfunding Successful	740	0	1	0.42	0.49

Table 1. Descriptive Results

We also computed correlations between all variables included in our analyses. Correlations between the category dummies and the other variables (Table A2) as well as between the other variables among themselves (Table A1) can be found in the Appendix at the end of the paper. Both correlation matrixes did not indicate any multicollinearity issues.

Regression Results

Table 2 shows the results of our regression analyses. The results reveal that several of our control variables influence in some way the success of crowdfunding projects. Projects which are listed in the national currency (Swiss Francs) as well as projects initiated by a company show significant higher numbers of donations as well as a higher propensity of successful crowdfunding at all. The number of project initiators primarily is positively related with the number of donations collected during crowdfunding campaigns. It is also positively related to successful crowdfunding at all. The intended funding goal of crowdfunding campaigns shows a twofold pattern: On the one hand, the funding goal is

negatively related to overall success of crowdfunding campaigns. However, on the other hand, it is positively related to the average amount of donations raised during the campaign.

Our controls for category specific effects in crowdfunding campaigns show significant relations only sporadically. Three categories ("Comics & Illustrations", "Food & Drink", and "Music & Sound") are positively related to higher numbers of donations. Only the project category of the city of Winterthur is positively related to a higher average amount of donations per project.

Hypothesis 1 suggests that higher media richness in the project presentations of crowdfunding projects is positively related with crowdfunding success. Our regression results show no significant influence for the number of photos on any of the dependent variables. In contrast, the fact that a project presentation contains a video is positively related with the number of donations ($p<0.01$) and is positively related with the overall success of crowdfunding campaigns ($p<0.05$). Because videos have the highest media richness, hypothesis 1 is confirmed.

Hypothesis 2 states that a higher frequency of project updates on the crowdfunding platform is positively related to the crowdfunding success of a project. Our regression results show a positive relation between the frequency of project updates and the number of donations ($p<0.01$), the average amount of donations ($p<0.01$) as well as the total success of crowdfunding projects ($p<0.01$). Our hypothesis 2 is thus fully confirmed by the data.

Hypothesis 3 suggests that the use of social media platforms in addition to the project page on the crowdfunding platform is positively related to the crowdfunding success of a project. Our regression results show no effect (from either Facebook or Twitter) on any measure of success in crowdfunding campaigns. Correspondingly, our hypothesis 3 is not supported.

Hypothesis 4 states that projects that provide a homepage additionally to their project presentation on the crowdfunding platform will show greater crowdfunding success than others. Our regression results show a positive relation between applying an additional homepage in a crowdfunding campaign and the average amount of donations a crowdfunding project realizes ($p<0.01$). Our hypothesis 4 is thus partially confirmed by our data.

Discussion

Crowdfunding is a new way to raise money that allows to adopt different concepts of online communication. For this framework, we adopt the concepts of social media and e-commerce, including elements of traffic generation, purchase intentions and willingness to pay. We elaborate an integrated framework of crowdfunding and online communication to measure how on-page and off-page online communication affects fundraising success for projects in a crowdfunding platform. This paper offers new insights into how these concepts can be adapted to a new perspective on crowdfunding.

Project Presentation

Higher media richness in the project presentation is associated with a higher number of donations and, thus, an increased chance of successful crowdfunding campaigns. Therefore, this study confirms recent approaches which adapted the basic concept of media richness to contemporary online communication (Lodhia 2012). Our results support the literature that suggests that videos provide the richest form of media communication because they allow personal and emotional communication (Liu et al. 2009). This enhanced transfer of information, personal feelings and emotions increases the number of donations and fosters the total success of crowdfunding campaigns. Similar results have been derived from Kickstarter data (Kuppuswamy and Bayus 2013; Mollick 2014) but only with respect to total success of crowdfunding campaigns.

In our results the application of a video in the project presentation is related to a higher number of donations, but not to higher amounts of donations. From an e-commerce perspective this means that videos primarily foster the purchase intention of potential supporters in crowdfunding platforms. This interpretation follows the idea that the application of a video in the project presentation fosters the conversion rate of a given number of page visitors. An alternative explanation would be that videos can generate additional traffic on a crowdfunding page.

Table 2. Regression Results

	Model A: Number of Donations		**Model B: Average Amount of Donations**		**Model C: Crowdfunding Successful**	
	STEP 1	**STEP 2**	**STEP 1**	**STEP 2**	**STEP 1**	**STEP 2**
CURRENCY	0.088*	0.093**	0.019	0.019	0.222*	0.325**
LANGUAGE	-0.011	-0.011	-0.010	-0.009	0.056	0.057
COMPANY	0.077+	0.074+	0.008	0.001	0.140	0.265*
INITIATORS	0.152**	0.115**	-0.018	-0.025	0.229**	0.177+
GOAL	0.035	0.032	0.119**	0.121**	-0.694**	-0.842**
CAT02: “Comics & Illustrations”	0.110**	0.113**	-0.015	-0.013	0.097	0.146
CAT03: “Software & Games”	-0.045	-0.026	-0.026	-0.020	-1.989	-1.921
CAT04: “Graphic & Design”	-0.022	-0.031	-0.004	0.005	0.002	0.039
CAT05: “Architecture & Interior”	-0.020	-0.020	0.042	0.033	0.003	0.007
CAT06: “Food & Drink”	0.138*	0.124*	-0.004	-0.002	0.064	0.022
CAT07: “Movie & Video”	0.018	-0.003	0.066	0.072	0.179	0.221
CAT08: “Dance & Theater”	-0.001	-0.005	0.022	0.031	-0.017	0.052
CAT09: “Music & Sound”	0.155*	0.123*	0.025	0.022	0.307*	0.371+
CAT10: “Furniture”	-0.008	-0.005	-0.009	-0.009	-0.071	-0.042
CAT11: “Photography”	-0.019	0.001	-0.010	0.001	-0.118	0.006
CAT12: “Society”	0.002	-0.010	-0.021	-0.021	0.010	-0.057
CAT13: “Media”	0.004	0.003	-0.014	-0.007	0.015	0.074
CAT14: “Art”	-0.049	-0.040	0.052	0.072	-0.007	0.069
CAT15: “Fashion”	0.058	0.034	0.032	0.037	0.135	0.160
CAT16: “Book”	0.096	0.052	0.019	0.015	0.152	0.008
CAT17: “Craft”	-0.045	-0.025	-0.020	-0.011	-0.170	-0.079
CAT18: “Outdoor”	-0.009	-0.001	0.008	0.014	0.046	0.101
CAT19: “Culture”	0.018	0.022	-0.037	-0.034	-0.041	-0.046
CAT20: “Politics”	0.051	0.066	0.005	0.008	0.102	0.211+
CAT21: “Social”	-0.012	-0.015	0.052	0.052	0.018	0.093
CAT22: “Sports & Health”	0.000	-0.039	0.055	0.053	-0.002	-0.033
CAT23: “Startup & New Business”	-0.036	-0.018	0.043	0.056	-0.062	0.094
CAT24: “Technology & Science”	-0.049	-0.030	0.006	0.003	-0.136	-0.058
CAT25: “Environment”	-0.042	-0.035	0.012	0.016	-0.086	-0.058
CAT26: “Events”	-0.032	-0.026	-0.030	-0.031	0.001	0.077
CAT27: “Open Category”	0.039	0.042	-0.010	-0.008	0.043	0.083
CAT28: “Concerts”	-0.019	-0.016	0.077+	0.073+	0.030	0.078
CAT29: “Sustainability”	0.007	-0.025	-0.014	-0.013	-0.020	-0.070
CAT30: “Winterthur (City)”	-0.075+	-0.043	0.329**	0.337**	-0.061	0.047
CAT31: “Tourism”	0.034	0.024	0.055	0.050	0.024	-0.023

Table 2. Regression Results - Continued						
	Model A: Number of Donations		**Model B: Average Amount of Donations**		**Model C: Crowdfunding Successful**	
	STEP 1	**STEP 2**	**STEP 1**	**STEP 2**	**STEP 1**	**STEP 2**
PHOTO (H1)		0.021		-0.006		-0.053
VIDEO (H1)		0.136**		0.019		0.262*
UPDATES (H2)		0.345**		0.128**		2.276**
FACEBOOK (H3)		0.046		-0.057		0.053
TWITTER (H3)		-0.010		-0.047		-0.138
HOMEPAGE (H4)		-0.011		0.112**		-0.063
R^2 / Nagelkerke's R^2	0.131	0.277	0.149	0.176	0.174	0.473
Cox & Snell R^2 / Adjusted R^2	0.087	0.234	0.099	0.118	0.129	0.352
Significance	0.000	0.000	0.000	0.000	0.000	0.000
N	740	740	632	632	740	740

$^{+}$ p < .10; * p < .05; ** p < .01

Table 2. Regression Results

This is in fact possible, because videos of crowdfunding campaigns are not uploaded directly to the crowdfunding platform. All videos of the crowdfunding campaigns analyzed on 100-days.net have first been uploaded to YouTube or Vimeo and have than been embedded in the project presentation on the crowdfunding platform. For this reason it may be possible, that the beneficial effects of video application on the number of donations can be explained to a certain extend by traffic generated outside the crowdfunding platform via the video. Videos on YouTube as well as Vimeo can be shared in various ways via social media and other online channels. Therefore they can develop an additional distribution outside the crowdfunding platform as well as outside the video network (Cheng et al. 2013; Li et al. 2012). However, this is merely an alternative explanation which complements the explanation developed for hypotheses 2 of this study.

In general, it seems that the use of visual media has already reached a relatively high aspiration level in online communication. Therefore, the importance of video-based content has increased in relation to photo-based content. Our results clearly illustrate this effect: On the one hand, all projects in the crowdfunding platform uploaded at least one photo to illustrate the project presentation. On the other hand, the application of higher numbers of photos did not show a relationship to any of the success measures of crowdfunding campaigns. In contrast, the application of videos showed a positive relation to the number of donations as well as to the total success of crowdfunding campaigns. Similar effects of a potential shift from photo-based to video-based product presentations have recently been analyzed concerning electronic and social commerce (Xu et al. 2015, Yoo et al. 2015).

Project Updates

Furthermore, high frequency of communication and interaction appears to be linked to several kinds of different success measures in crowdfunding campaigns. As the literature suggests, high interaction frequency supports social relationship building between the project initiator and donors (Heide and Miner 1992; Smith et al. 1994). Furthermore, communication intensity increases confidence in the benevolence of others and creates a shared understanding for collaborations on specific topics (Cohen et al. 2010). Our results show that, a higher frequency of project updates during a crowdfunding campaign is related to a higher numbers of donations, higher average amounts of donations as well as to a higher

propensity of the total success of crowdfunding campaigns. Therefore, frequent updates – on a first glance – seem to be the strongest factor to influence a crowdfunding campaign's success.

However, the question of causality between updates and success measures can be answered in both directions. As argued in the development of hypothesis 2, it can be expected that a higher frequency of communication and interaction during a crowdfunding campaign will increase trust, information and sense of belonging of the actual and potential supporters of a campaign. Therefore, beneficial effects in crowdfunding success arise. However, the relationship between updates and success measures could also be explained the other way round: Updates can contain several kinds of information. On the one hand - following first exploratory results - most updates report the status and earlier developments towards the provision or delivery of the project (Mollick 2014). On the other hand, many updates contain initiators' reactions on achieved milestones during the campaign, such as intermediate funding goals. In this case, project updates would be triggered by success related events.

Summing up, our results concerning project updates show strong influences of a higher frequency of project updates on all success measures of crowdfunding campaigns. However, future research is necessary to underpin our results and to disclose the concrete relationship between updates and success measures in more detail, for instance by application of time series analyses.

Social Media

Based on other fields of online traffic generation (e.g., search engine optimization, web accessibility, online marketing), our assumption was based on the fact that particular off-page features influence the success of projects (Malaga 2008; Moreno and Martinez 2013). However, off-page communication appears to show mixed effects. With respect to our data, the solely application of additional social media channels appears to be irrelevant for crowdfunding success as it shows no effect on any measure of fundraising success. This result extends other empirical findings. In his first exploratory study, Mollick (2014) measures the effect of the number of social network Facebook contacts for the project initiators. Our results suggest that it is less about whether a social media channel is used or not than about how it is used in detail. It therefore appears necessary to develop the level of activity and cross-linkings of social media channels (Facebook, Twitter or others) prior to starting a crowdfunding campaign. Only then will project initiators benefit from the opportunities that the traffic and reach generated by social media platforms might offer. However, also from a general perspective of e-commerce it seems much more difficult to generate traffic from social media platforms to an online point of sale as many experts originally had expected (Huang and Benyoucef 2013; Kaske et al. 2012). Project initiators are facing similar challenges concerning their crowdfunding campaigns. Therefore, the word-of-mouth activities of external users with their own Facebook accounts is more important for traffic generation in crowdfunding (Thies et al. 2014). Social media accounts may serve in crowdfunding more as management and relationship tool for existing communities than as an open access point for additional traffic.

Homepage

Beside social media we analyze the relationship between the use of an additional homepage on our success measures of crowdfunding campaigns. Our results show that the application of an additional homepage is positively related to the average amount of donations. Providing a wide range of online information helps stakeholders in their decision making. Our results suggest that a deeper understanding based on more information from an additional homepage creates a higher level of trust in actual supporters of a project. A project initiator (private or firm) can thereby present its competence and its trustworthiness in a much more individual way. In particular, professional presentations on the external homepage can help to demonstrate work samples, testimonials and references, which might be of particular importance to projects initiated by companies (Jarvenpaa et al. 2000). As a result, the application of an additional homepage leads to a higher willingness to pay, which is seen in higher average levels of donations. This replicates the e-commerce pattern that a higher webpage quality corresponds with higher willingness to pay (Gregg and Walczak 2010). An additional website allows a higher level of individual expression and potential design quality compared to the standardized project page on the crowdfunding platform. This also corresponds with potential reputation and signaling effects resulting from an adequate homepage additionally to the project page (Jarvenpaa et al. 2000).

Next to the signaling and information effect of a homepage, in the development of hypotheses 4 we also expected a potential effect that a well-established homepage could generate additional traffic for a crowdfunding project. Although this study did not gather data on concrete traffic sources on the project pages on the crowdfunding platform, the fact, that the application of an additional homepage is not positively related to the number of donations can be interpreted in such a way that the project initiators own homepage is rather not a relevant traffic source for crowdfunding campaigns.

Implications and Conclusions

In this paper, we develop a new perspective on how crowdfunding activities rely on mechanisms from social media and e-commerce with the components of traffic generation, optimization of conversion rates and willingness to pay. This study assesses the role of on-page and off-page communication influencing the number of donations, the average amount of donations and the "all-or-nothing" success of the crowdfunding campaign. The analysis highlights the importance of on-page communication, including media richness and frequent information exchange, while off-page communication – as measured in our study – appears to have weaker effects on crowdfunding success.

Our findings have several practical implications for project initiators, donors, and platform operators. In particular, project initiators can better understand how on-page activities affect crowdfunding success. Newly established project presentations should include enriched media to support comprehensive communication by including various levels of communication. In particular, the integration of video in the project presentation – video being the content format with the highest media richness – can help to increase the purchase intentions of prospective donors, resulting in a higher number of donations. Video also increases the chances of successful overall funding. However, the aspiration level of media richness is very high. Therefore, integrating photos in the project presentation is insufficient and does not support communication adequately. Only videos appear to combine the necessary mix of cognitive and emotional communication combined with a personal note. Additionally, frequent project updates published on the project page play an important role in fundraising success on crowdfunding platforms. This result is very good news for project initiators because project updates are an easy and low-cost action compared to other actions measured in this study.

This study is subject to several limitations. One limitation of this study is that we only quantitatively measure the existence of several web-based services and activities in our analysis. The potential effects of videos, photos and texts have only been analyzed on the basis of their format and quantity. Furthermore, based on the data we are not able to completely track the interplay and the dynamics between off-page and on-page activities. As we argue from the literature, off-page activities particularly aim at generating traffic to the point of sale (in this case, the project page on the crowdfunding platform). It is then, however, necessary to completely capture the traffic between the project page on the platform, all used social media platforms, search engines in general and the product website. Recent studies included additional data in their analyses like Google Analytics data (Burtch et al. 2013) and external social media traffic from Facebook and Twitter (Thies et al. 2014). Another limitation is related to the variety of projects, which are classified by project initiators into different categories (such as food and beverages, media, social projects, etc.). The sample provides 740 projects and 31 categories. In this study, we control for the difference of categories. However, we are not able to run specific analyses based on selected categories because the average number of projects per category is 24 projects and is therefore rather small for further reliable calculations. However, several categories can also be combined to "meta-categories", for instance tourism related crowdfunding projects (Beier and Wagner 2015).

As well as addressing these limitations, future research could analyze how traffic is generated on the project pages (point of sale) and where the traffic has originated. Then, the logic of e-commerce would be completely applied to crowdfunding platforms. To better understand the effects of the different content formats such as videos, photos, and text, further research should also include content analyses of these communication forms and the type of activities to enhance our understanding of the additional effects from interactions, relationship development and fundraising success in crowdfunding platforms. Any analysis will help to better understand the different interdependencies between online communication and the crowdfunding success of projects. Our study also expands theory development in direction of new additional dependent variables. Most of the present crowdfunding research solely focusses on overall campaign success as we did in Model 3. Regarding the logic of purchase intention (conversion rates) and

willingness to pay (average basket value) we included the number of donations and the average amount of donations as further success measures in our analysis. Following this direction, future research should analyze more detailed how user behavior influences the success of crowdfunding campaigns. Therefore, also the number of clicks, sessions and conversion rates should be included in the analyses.

The aim of this study was to elucidate how project initiators in crowdfunding platforms facilitate their chances for successful fundraising by means of optimizing their on-page and off-page online communication. The presented framework shows a new comprehensive approach combining mechanisms of crowdfunding, social media and e-commerce. Embedded in different disciplines and thematic approaches, researchers have the ability to use already generated data that represent all activities of initiators and donors and, thus, answer an even broader range of research questions.

Appendix

Table A1. Correlation Matrix (without Categories)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
(1)	1													
(2)	.17†	1												
(3)	.16†	.02	1											
(4)	.04	.05	.08*	1										
(5)	-.04	-.07	.05	-.01	1									
(6)	.07	.07	.02	.02	.06	1								
(7)	-.04	.03	.05	.12†	.09*	.03	1							
(8)	.00	-.01	-.05	.06	-.02	.08*	.14†	1						
(9)	.01	.01	.19†	.03	.03	.07	.23†	.06	1					
(10)	-.09*	-.13†	.10†	.05	.10*	.04	.15†	.10†	.21†	1				
(11)	.07	-.03	.30†	.06	.05	.10†	.15†	.00	.24†	.29†	1			
(12)	.11†	.03	.07	.17†	.04	.07	.22†	.38†	.15†	.07*	.08*	1		
(13)	.02	.00	.05	.00	.14†	-.01	.04	.10*	-.08*	-.03	.06	.06	1	
(14)	.11†	.07	.04	.13†	-.20†	.00	.17†	.41†	.09*	.02	.04	.63†	.30†	1

Note: * Pearson correlation coefficient with significance level p ≤0.05, † with significance level p ≤0.01.

(1) = CURRENCY, (2) = LANGUAGE, (3) = COMPANY, (4) = INITIATORS, (5) = GOAL, (6) = PHOTO, (7) = VIDEO, (8) = UPDATES, (9) = FACEBOOK, (10) = TWITTER, (11) = HOMEPAGE, (12) = Number of Donations, (13) = Average Amount of Donations, (14) = Crowdfunding Successful

Table A1. Correlation Matrix (without Categories)

Table A1. Correlation Matrix (without Categories)

Table A2. Correlations of Project Categories

C	N	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
01	*21*	-.04	-.06	.00	.04	-.01	-.07	.02	.00	-.09*	.00	-.03	-.01	-.02	-.01
02	*8*	-.01	.03	-.04	-.02	-.04	.04	-.04	-.02	.06	-.06	.00	.10*	-.03	.04
03	*7*	-.02	.03	-.06	-.03	.02	-.05	-.06	-.03	-.08*	-.02	-.04	-.06	-.04	-.08*
04	*10*	.04	.04	-.06	-.03	-.03	.07	-.04	.02	.01	.02	-.10*	-.04	-.02	-.01
05	*2*	.02	.02	.05	.03	-.01	.04	.05	-.01	-.10†	-.03	.03	-.02	.03	.01
06	*44*	.06	.04	.02	-.01	.07	.09*	-.03	.02	.04	.01	.03	.13†	-.03	-.01
07	*57*	-.04	.01	-.08*	.03	.02	-.10†	.12†	.00	-.02	.05	-.04	-.01	.04	.06
08	*28*	-.07	.04	.06	.12†	-.07	-.04	.10†	-.04	.11†	.03	.05	.00	-.01	.00
09	*62*	.00	-.02	-.09*	.06	-.04	-.10†	.16†	.02	.08*	.02	.08*	.15†	-.02	.14†
10	*4*	.02	.02	.03	.02	-.02	.05	.03	-.02	-.01	.00	.04	-.01	-.02	-.03
11	*17*	-.02	.02	-.10†	.00	-.05	.03	-.03	-.06	-.05	-.06	-.03	-.04	-.03	-.06
12	*14*	.04	.01	-.04	-.02	.07	.00	-.06	.05	-.02	-.01	-.01	-.01	-.03	-.02
13	*14*	-.03	-.02	.08*	.01	.00	.01	.06	-.03	.03	.16†	.08*	.00	-.03	.00
14	*32*	-.01	.00	-.06	-.06	-.05	.03	-.03	-.05	-.03	-.05	-.09*	-.09*	.02	-.02
15	*16*	-.05	.05	-.02	.06	.03	.11†	.00	.05	.06	.05	-.04	.05	.02	.04
16	*48*	-.02	.01	-.14†	-.06	-.02	-.06	-.03	.12†	.,01	.06	-.03	.06	-.02	.04
17	*8*	.03	-.01	-.02	-.04	-.04	.02	-.07	-.05	-.01	-.06	-.06	-.06	-.03	-.06
18	*5*	.03	.03	-.03	.03	-.04	.01	-.03	-.02	.00	.03	.01	-.01	-.01	.03
19	*36*	.00	.01	.12†	.03	-.04	-.04	-.03	-.01	.01	.04	.08*	.01	-.07	-.02
20	*12*	.04	.04	.02	-.03	.00	-.05	-.04	-.05	.07	-.02	.08*	.04	-.01	.04
21	*106*	.06	-.01	.11†	.00	-.01	.08*	-.08*	.01	-.09*	-.09*	-.01	-.04	.01	-.01
22	*49*	.06	.03	.00	-.05	-.02	.05	.05	.06	.04	-.07	-.06	-.02	.03	-.02
23	*39*	-.15†	-.13†	.03	-.06	.08*	.00	-.04	-.07	.07	.04	.04	-.07*	.03	-.08*
24	*7*	.03	-.11*	.06	.00	.04	-.05	-.03	-.05	-.02	-.02	.03	-.05	.00	-.06
25	*8*	-.01	-.06	.06	.06	-.01	.06	-.01	-.02	.02	.00	.03	-.04	.00	-.04
26	*31*	.02	.04	.03	-.05	-.06	-.02	-.01	-.04	.01	-.02	.06	-.06	-.06	.00
27	*9*	.03	-.01	-.08*	-.01	.07	.06	.00	-.01	-.06	.00	-.05	.03	-.01	.00
28	*10*	.04	.04	.05	.00	-.02	-.04	.03	-.03	.03	-.01	.07	-.02	.06	.02
29	*24*	-.03	-.05	.02	-.01	.15†	.01	-.03	.09*	-.03	.03	-.05	.00	-.01	-.05
30	*10*	.04	.04	.10†	.05	.05	-.09*	-.06	-.05	-.16†	-.06	-.09*	-.07	.33†	-.03
31	*2*	.02	.02	-.01	-.02	-.01	.07	-.01	.03	-.04	.03	.03	.03	.05	.01

Note: * Pearson correlation coefficient with significance level p ≤0.05, † with significance level p ≤0.01.

C = Category, N = Number, (1) = CURRENCY, (2) = LANGUAGE, (3) = COMPANY, (4) = INITIATORS, (5) = GOAL, (6) = PHOTO, (7) = VIDEO, (8) = UPDATES, (9) = FACEBOOK, (10) = TWITTER, (11) = HOMEPAGE, (12) = Number of Donations, (13) = Average Amount of Donations, (14) = Crowdfunding Successful

Table A2. Correlations of Project Categories

References

Ajzen, I., and Driver, B. L. 1992. "Contingent Value Measurement: On the Nature and Meaning of Willingness to Pay," *Journal of Consumer Psychology* 1(4), pp. 297-316.

Agrawal, A., Catalini, C., and Goldfarb, A. 2013. "Some Simple Economics of Crowdfunding," *SSRN Electronic Journal*: http://ssrn.com/abstract=2281044.

Agrawal, A., Catalini, C., and Goldfarb, A. 2011. "The Geography of Crowdfunding," *SSRN Electronic Journal*: http://ssrn.com/abstract=1770375.

Agrawal, A., Hosanagar, K., and Smith, M. D. 2011 "Location, Location, Location: An Analysis of Profitability of Position in Online Advertising Markets," *Journal of Marketing Research* 48(6), pp. 1057-1073.

Aiken, L. S. and West, S. G. 1991. Multiple Regression: Testing and Interpreting Interactions, London, Sage.

Allison, T. H., Davis, B. C., Short, J. C., and Webb, J.W. 2015. "Crowdfunding in a Prosocial Microlending Environment: Examining the Role of Intrinsic Versus Extrinsic Cues," *Entrepreneurship, Theory and Practice* 39(1), pp. 53-73.

Bains, W., Wooder, S., and Guzman, D. R. M. 2014. "Funding Biotech Start-ups in a Post-VC World," *Journal of Commercial Biotechnology* 20(1), pp. 10-27.

Baresch, B., Knight, L., Harp, D., and Yaschur, C. 2011. "Friends Who Choose Your News: An Analysis of Content Links on Facebook," *The Official Research Journal of International Symposium on Online Journalism*, Austin, TX. http://online.journalism.utexas.edu/2011/papers/Baresch2011.pdf (2014/03/15).

Baron, J. and Maxwell, N. P. 1996. "Cost of Public Goods Affects Willingness to Pay for Them," *Journal of Behavioral Decision Making* 9(3), pp. 173-183.

Batjargal, B. 2006. "The Dynamics of Entrepreneurs' Networks in A Transitioning Economy: The Case of Russia," *Entrepreneurship and Regional Development*, 18(4), pp. 305-320.

Baum, A. C. and Silverman, B. S. 2004. "Picking Winners or Building them? Alliance, Intellectual, and Human Capital as Selection Criteria in Venture Financing and Performance of Biotechnology Start-ups," *Journal of Business Venturing*, 19(3), pp. 411-436.

Beier, M. and Wagner, K. 2015. "Crowdfunding Success of Tourism Projects. Evidence from Switzerland," *SSRN Electronic Journal*: http://ssrn.com/abstract=2520925.

Belleflamme, P., Lambert, T., and Schwienbacher, A. 2013. "Individual Crowdfunding Practices," *Venture Capital*, 15(4), pp. 313-333.

Brun, I., Rajaobelina, L., and Ricard, L. 2014. "Online Relationship Quality: Scale Development and Initial Testing," *International Journal of Bank Marketing* 32(1), pp. 5-27.

Burtch, G., Ghose, A., and Wattal, S. 2013. "An Empirical Examination of the Antecedents and Consequences of Contribution Patterns in Crowd-Funded Markets," *Information Systems Research* 24(3), pp. 499-519.

Chen, Y.-F. 2008. "Herd Behavior in Purchasing Books Online." *Computers in Human Behavior* 24(5), pp. 1977-1992.

Cheng, X., Liu, J., and Dale, C. 2013. "Understanding the Characteristics of Internet Short Video Sharing: A YouTube-Based Measurement Study," *IEEE Transactions on Multimedia* 15(5), pp. 1184-1194.

Cohen, T. R., Wilschut, T., and Insko. C. A. 2010. "How Communication Increases Interpersonal Cooperation in Mixed-Motive Situations," *Journal of Experimental Social Psychology*, 46(1), pp. 39-50.

Cohn, S. R. 2012. "The New Crowdfunding Registration Exemption: Good Idea, Bad Execution," *Florida Law Review* 64(5)9, pp. 1433-1445.

Colombo, M. G., Franzoni, C., and Rossi-Lamastra, C. 2015. "Internal Social Capital and the Attraction of Early Contributions in Crowdfunding," *Entrepreneurship, Theory and Practice* 39(1), pp. 75-100.

Crosetto, P. and Regner, T. 2014. "Crowdfunding: Determinants of Success and Funding Dynamics," Jena Economic Research Papers. No. 2014-035.

Daft, R. L. and Lengel, R. H. 1986. "Organizational Information Requirements, Media Richness and Structural Design," *Management Science* 32(5), pp. 554-571.

Daft, R. L., Lengel, R. H., and Trevino, L. K. 1987. "Message Ecquivocality, Media Selection, and Manager Performance Implications for Information Systems," *MIS Quarterly* 11(3), pp. 355-366.

De Buysere, K., Gajda, O., Kleverlaan, R., Marom, D., and Klaes, M. 2012. "A Framework for European Crowdfunding," European Crowdfunding Network (ECN), www.europecrowdfunding.org/european_crowdfunding_framework.

Dennis, A. R. and Kinney, S. T. 1998. "Testing Media Richness Theory in the New Media: The Effects of Cues, Feedback, and Task Equivocality," *Information Systems Research* 9(3), pp. 256-274.

Dillard, J. P., Solomon, D. H., and Palmer, M. T. 1999. "Structuring the Concept of Relational Communication," *Communication Monographs* 66(3), pp. 49-65.

Dholakia, U. A., Basuroy, S., and Soltysinski, K. 2002. "Auction or Agent (or both)? A Study of Moderators of the Herding Bias in Digital Auctions," *International Journal of Research in Marketing* 19(2), pp. 115-130.

Duan, W., Gu, B., and Whinston, A. B. 2005. "Analysis of Herding on the Internet. An Empirical Investigation of Online Software Downloads," *Proceedings of the Eleventh Americas Conference on Information Systems*, pp. 3514-3518.

Fisher, R. J., Maltz, E., and Jaworski, B .J. 1997. "Enhancing Communication between Marketing and Engineering: The Moderating Role of Relative Functional Identification," *Journal of Marketing* 61(3), pp. 54-70.

Fink, A. 2012. "Protecting the Crowd and Raising Capital through the JOBS Act." *SSRN Electronic Journal*: http://ssrn.com/abstract=2046051.

Franke, N., Gruber, M., Harhoff, D., and Henkel, J. 2008. "Venture Capitalists' Evaluations of Start-up Teams: Trade-Offs, Knock-Out Criteria, and the Impact of VC Experience," *Entrepreneurship, Theory and Practice* 32(3), pp. 459-483.

Frazier, P. A., Tix, A. P., and Barron, K. E. 2004. "Testing Moderator and Mediator Effects in Counseling Psychology Research," *Journal of Counseling Psychology*, 51(1), pp. 115-134.

Gao, W., Tian, Y., Huang, T., and Yang, Q. 2010. "Vlogging: A Survey of Videoblogging Technology on the Web," *Journal ACM Computing Surveys* 42(2)15, pp. 1-57.

Gibbons, D. E. 2004. "Friendship and Advice Networks in the Context of Changing Professional Values," Administrative Science Quarterly, 49(2), pp. 238-262.

Giudici, G., Guerini, M., and Rossi-Lamastra, C. 2013. "Why Crowdfunding Projects can Succeed: The Role of Proponents' Individual and Territorial Social Capital," *SSRN Electronic Journal*: http://ssrn.com/abstract=2255944.

Granovetter, M. 1973. "The Strength of Weak Ties," *American Journal of Sociology* 78(6), pp. 1360-1380.

Gregg, D.G. and Walczak, S. 2010. "The Relationship between Website Quality, Trust and Price Premiums at Online Auctions," *Electronic Commerce Research* 10(1), pp. 1-25.

Groeger, L. and Buttle, F. 2014. "Word-of-mouth Marketing Influence on Offline and Online Communications: Evidence from Case Study Research," *Journal of Marketing Communications* 20(1/2), pp. 21-41.

Hansen, M. T., Mors, M. L., and Lovas, B. 2005. "Knowledge Sharing in Organisazions: Multiple Networks, Multiple Phases," *Academy of Management Journal* 48(5), pp. 776-793.

Heide, J. B. and Miner, A. S. 1992. "The Shadow of the Future: Effects of Anticipated Interaction and Frequency of Contact on Buyer-Seller Cooperation," *Academy of Management Journal* 35(2), pp. 265-291.

Heminway, J. M. 2012. "What Is a Security in the Crowdfunding Era," *Ohio State Entrepreneurial Business Law Journal* 7(2), pp. 335-371.

Herzenstein, M., Dholakia, U. M., and Andrews, R. L. 2011. "Strategic Herding Behavior in Peer-to-Peer Loan Auctions," *Journal of Interactive Marketing* 25(1), pp. 27-36.

Hruschka, H. 2013. "Comparing Small- and Large-Scale Models of Multicategory Buying Behavior," *Journal of Forecasting* 32(5), pp.: 423-434.

Huang, Z. and Benyoucef, M. 2013. "From E-Commerce to Social Commerce: A Close Look at Design Features," *Electronic Commerce Research and Applications*, 12(4), pp. 246-259.

Hughes, D. J., Rowe, M., Batey, M., and Lee, A. 2012. "A Tale of Two Sites: Twitter vs. Facebook and the Personality Predictors of Social Media Usage," *Computers in Human Behavior* 28(2), pp. 561-569.

Huntley, J. K. 2006. "Conceptualization and Measurement of Relationship Quality: Linking Relationship Quality to Actual Sales and Recommendation Intention," *Industrial Marketing Management* 35(6), pp. 703-714.

Ingram, C., Teigland, R., and Vaast, E. 2014. "Crowdfunding in Action: How Institutional Logics Encourage and Constrain Affordance Perception," in *Proceedings of the 74th Academy of Management Conference,* Philadelphia, PA.

Jarvenpaa, S. L., Tractinsky, N., and Vitale, M. 2000. "Consumer Trust in an Internet Store," *Information Technology and Management* 1(1/2), pp. 45-71.
Kaplan, A. M. and Haenlein, M. 2010. "Users of the World, Unite! The Challenges and Opportunities of Social Media," *Business Horizons* 53(1), pp. 59-63.
Kaske, F., Kügler, M., and Smolnik, S. 2012. "Return on Investment in Social Media – Does the Hype Pay Off? Towards an Assessment of the Profitability of Social Media in Organizations," in *Proceedings of the 45th Hawaii International Conference on System Science*, IEEE (ed.), Maui, JI, pp. 3898-3907.
Kietzmann, J. H., Hermkens, K., McCarthy, I. P., and Silvestre, B. S. 2011. "Social Media? Get Serious! Understanding the Functional Building Blocks of Social Media," *Business Horizons* 54(3), pp.241-251.
Kim, S.-S. and Crompton, J. L. 2001. "The Effects of Different Types of Information Messages on Perceptions of Price and Stated Willingness-to-Pay," *Journal of Leisure Research* 33(3), pp. 299-318.
Klinger, U. 2013. "Mastering the Art of Social Media," *Information, Communication and Society* 16(5), pp. 717-736.
Kuppuswamy, V. and Bayus, B. L. 2013. "Crowdfunding Creative Ideas: The Dynamics of Project Backers in Kickstarter," *SSRN Electronic Journal*: http://ssrn.com/abstract=2234765.
Lai, L. S. L. and Turban, E. 2008. "Groups Formation and Operations in the Web 2.0 Environment and Social Networks," *Group Decision and Negotiation* 17(5), pp. 387-402.
Lechler, T. 2001. "Social Interaction: A Determinant of Entrepreneurial Team Venture Success," *Small Business Economics* 16(4), pp. 263-278.
Lee, E. and Lee, B. 2012. "Herding Behavior in Online P2P Lending: An Empirical Investigation," *Electronic Commerce Research and Applications* 11(5), pp. 495-503.
Liu, C.-T., Guo, Y.M., and Lee. C.-H. 2011. "The Effects of Relationship Quality and Switching Barriers on Customer Loyalty," *International Journal of Information Management* 31(1), pp. 71-79.
Liu, S.-H., Liao, H.-L., and Pratt, J. A. 2009. "Impact of Media Richness and Flow on E-Learning Technology Acceptance," *Computers and Education* 52(3), pp. 599-607.
Li, H., Wang, H., Liu, J., and Xu, K. 2012. „Video Sharing in Online Social Networks: Measurement and Analysis," in *Proceedings of the 22nd International Workshop on Network and Operating System Support for Digital Audio and Video*, Toronto, Ontario, Canada, pp. 83-88.
Lodhia, S. 2012. "Web Based Social and Environmental Communication in the Australian Minerals Industry: An Application of Media Richness Framework," *Journal of Cleaner Production* 25, pp. 73-85.
Macht, S. A. and Weatherston, J. 2015. Academic Research on Crowdfunding: What's Been Done and What's to Come?" *Strategic Change* 24(2), pp. 191.205.
Malaga, R. A. 2008. "Worst Practices in Search Engine Optimization," *Communications of the ACM* 51(12), pp. 147-150.
Marom, D., Robb, A., and Sade, O. 2015. "Gender Dynamics in Crowdfunding (Kickstarter): Evidence on Entrepreneurs, Investors, Deals and Taste Based Discrimination," *SSRN Electronic Journal:* http://ssrn.com/abstract= 2442954.
Mollick, E. 2014. "The Dynamics of Crowdfunding: An Exploratory Study." *Journal of Business Venturing* (29)1, pp. 1-16.
Montoya, M. M., Massey, A. P., Hung, Y.-T. C., and Crisp, C. B. 2009. "Can You Hear Me Now? Communication in Virtual Product Development Teams," *Journal of Product Innovation Management* 26(2), pp. 139-155.
Moorman, C., Zaltman, G., and Deshpande, R. 1992. "Relationships Between Providers and Users of Market Research: The Dynamics of Trust within and Between Organizations," *Journal of Marketing Research* 29(3), pp. 314-328.
Moreno, L. and Martinez, P. 2013. "Overlapping Factors in Search Engine Optimization and Web Accessibility," *Online Information Review* 37(4), pp. 564-580.
Moritz, A. and Block, J. 2015. "Crowdfunding: A Literature Review and Research Directions," *SSRN Electronic Journal*: http://ssrn.com/abstract=2554444.
Morris, M. and Ogan, C. 1996. "The Internet as Mass Medium," *Journal of Computer-Mediated Communication* 1(4), DOI: 10.1111/j.1083-6101.1996.tb00174.x.
Palmer, J. W, 2002. "Website Usability, Design, and Performance Metrics," *Information Systems Research* 13(2), pp. 151–167.
Pinto, M. B. and Pinto, J. K. 1990. "Project Team Communication and Cross-Functional Cooperation in New Program Development," *Journal of Product Innovation Management* 7(3), pp. 200-212.

Posegga, O., Zylka, M. P., and Fischbach, K. 2015. "Collective Dynamics of Crowdfunding Networks," *Proceedings of the 48th Hawaii International Conference on System Science*, pp. 3258-3267.

Qiu, C. 2013. "Issues in Crowdfunding: Theoretical and Empirical Investigation on Kickstarter," *SSRN Electronic Journal*: http://ssrn.com/abstract=2345872.

Ready, K. J., Hostager, T. J., Lester, S., and Bergmann, M. 2004. "Beyond the Silo Approach: Using Group Support Systems in Organizational Behavior Classes to Facilitate Student Understanding of Individual and Group Behavior in Electronic Meetings," *Journal of Management Education* 28(6), pp 770-789.

Reagans, R. and McEvily, B. 2003. "Network Structure and Knowledge Transfer: The Effects of Cohesion and Range," *Administrative Science Quarterly* 48(2), pp. 240-267.

Rockmann, K. W. and Northcraft, G. B. 2008. "To Be or not to Be Trusted: The Influence of Media Richness on Defection and Deception," *Organizational Behavior and Human Decision Processes* 107(2), pp. 106-122.

Schwienbacher, A. and Larralde, B. 2012. "Crowdfunding of Small Entrepreneurial Ventures," in *The Oxford Handbook of Entrepreneurial Finance*, D. Cumming (Ed.), New York: Oxford University Press, pp. 369-391.

Semrau, T. and Beier, M. 2015. "How Specialised and Integrated Relationship Management Responsibilities Foster New Ventures' Network Development," *International Journal of Entrepreneurial Venturing* 7(1), pp. 47-64.

Smith, A. N., Fischer, E., and Yongjian, C. 2012. "How Does Brand-Related User-Generated Content Differ across YouTube, Facebook, and Twitter?" *Journal of Interactive Marketing* 26(2), pp. 102-113.

Smith, K. G., Smith, K. A., Olian, J. D., Sims Jr., H. P., O'Bannon, D. P., and Scully, J. A. 1994." Top Management Team Demography and Process: The Role of Social Integration and Communication," *Administrative Science Quarterly* 39(3), pp. 412-438.

Song, A., Lee, H. I., Ko, M., and Lee, U. 2015. "Every Little Helps: Understanding Donor Behavior in a Crowdfunding Platform for Non-profits," *Proceedings of the 33rd Annual ACM Conference Extended Abstracts on Human Factors in Computing Systems*, pp. 1103-1108.

Stadler, M., Thies, F., Wessel, M., and Benlian, A. 2015. "Erfolg von Crowdfunding-Kampagnen frühzeitig erkennen: Erfolgsprädikatoren auf Kickstarter und Indiegogo," *Proceedings of the 12th Internationale Tagung Wirtschaftsinformatik*, pp. 1237-1251.

Swan, J., Newell, S., Scarbrough, H., and Hislop, D. 1999. "Knowledge Management and Innovation: Networks and Networking," *Journal of Knowledge Management* 3(4), pp. 262-275.

Swanson, R.W. 1970. "The Information Business is a People Business," *Information Storage and Retrieval* 6(4), pp. 351-361.

Sun, P.-C. and Cheng, H. K. 2007. "The Design of Instructional Multimedia e-Learning: A Media Richness Theory-based Approach," *Computers and Education* 49(3), pp. 662-676.

TechCrunch .2013. "Kickstarter Reportedly Owns Indiegogo with Around 6X More Total Dollars Raised, Average Success Rate Much Higher," http://techcrunch.com/2013/08/30/kickstarter-owns-indiegogo-with-around-6x-more-total-dollars-raised-average-success-rate-much-higher/.

Thies, F., Wessel, M., and Benlian, A. 2014. "Understanding the Dynamic Interplay of Social Buzz and Contribution Behavior within and between Online Platforms – Evidence from Crowdfunding," *Proceedings of the 35th International Conference on Information Systems (ICIS)*.

Uzzi, B. 1997. "Social Structure and Competition in Interfirm Networks: The Paradox of Embeddedness," *Administrative Science Quarterly* 42(1), pp. 35-67.

Walley, M. J. C. and Fortin, D. R. 2005. "Behavioral Outcomes from Online Auctions: Reserve Price, Reserve Disclosure, and Initial Bidding Influences in the Decision Process," *Journal of Business Research* 58(10), pp. 1409-1418.

Walther, J. B. 1992. "Interpersonal Effects in Computer-Mediated Interaction. A Relational Perspective," *Communication Research* 19(1), pp. 52-90.

Wang, Y. D. and Emurian, H. H. 2005. "An Overview of Online Trust: Concepts, Elements, and Implications," *Computers in Human Behavior* 21(1), pp. 105-125.

Watzlawick, P., Bavelas, J. B., and Jackson, D. D. 2011. "*Pragmatics of Human Communication: A Study of Interactional Patterns, Pathologies, and Paradoxes*", WW Norton and Company.

Watzlawick, P. and Beaver, J. 1967. "Some Formal Aspects of Communication," *American Behavioral Scientist* 10(4), pp. 4-8.

Wessel, M., Thies, F., and Benlian, A. 2015. "A Lie Never Lives to Be Old: The Effects of Fake Social Information on Consumer Decision-Making in Crowdfunding," *Proceedings of the 23rd European Conference on Information Systems (ECIS).*

Wu, J., Sun, H., and Tan, Y. 2013. "Social Media Research: A Review," *Journal of System Science and System Engineering* 22(3), pp. 257-282.

Xu, P., Chen, L., and Santhanam, R. 2015. "Will Video be the Next Generation of E-Commerce Product Reviews? Presentation Format and the Role of Product Type," *Decision Support Systems* 73, pp. 85-96.

Yli-Renko, H., Autio, E., and Sapienza, H .J. 2001. "Social Capital, Knowledge Acquisition, and Knowledge Exploitation in Young Technology-Based Firms," *Strategic Management Journal* 22(6/7), pp. 587-613.

Yoo, C. W., Kim, Y. J., and Sanders, G. L. forthcoming. "The Impact of Interactivity of Electronic Word of Mouth Systems and E-Quality on Decision Support in the Context of the E-Marketplace," *Information and Management* 52(4), pp. 496-505.

Zheng, H., Li, D., Wu, J., and Xu, Y. 2014. "The Role of Multidimensional Social Capital in Crowdfunding: A Comparative Study in China and US." *Information and Management* 51(4), pp. 488-496.

Zilgalvis, P. 2014. "The Need for an Innovation Principle in Regulatory Impact Assessment: The Case of Finance and Innovation in Europe," *Policy and Internet* 6(4), pp. 377-392.