Successful Crowdfunding: Focusing on Social Interaction and Goal Achievement Motivations*

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Ⅰ. Introduction

Recently, with the development of information technology and the proliferation of mobile devices, the sharing economy shows a rapid growth rate. In 2015, Pricewaterhouse Coopers, a consulting firm, projected that global revenue from the five main sharing sectors, namely travel, car sharing, finance, staffing, and music/video streaming, is expected to increase from USD 15 billion to approximately USD 335 billion by 2025 (PricewaterhouseCoopers LLP, 2015). Particularly, crowdfunding is gaining popularity as a business model of the sharing economy in the financial sector.

As raising financial resources is available on crowdfunding platforms, venture start-ups, and small and medium-sized enterprises can gain access to financing from a large number of investors. From an investor point of view, these are enabled to find new opportunities for investment. In general, even if start-ups have good ideas for business, they experience

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difficulties in raising money, owing to limited brand-building resources. However, crowdfunding platforms allow entrepreneurs to raise financial resources from the crowd online. According to Massolution, a research firm specialized in the crowdfunding industry, the global crowdfunding market amounted to USD 34.4 billion in 2015 and the crowdfunding industry will surpass venture capital by 2016 (Barnett, 2015; Massolution, 2015).

Although numerous crowdfunding platforms, such as Kickstarter, IndieGoGo, and RocketHub, appeared recently, there have been limited research on performance determinants for crowdfunding projects. Despite more financing opportunities, many crowdfunding projects fail to raise enough money for realizing their ideas. There have been various attempts to examine the determinants of successful crowdfunding projects, but we still have limited systematic research in this field.

Kim and Viswanathan (2014) argue that, differently from traditional funding mechanisms, which can provide their expertise to investors, crowdfunding platforms try to overcome their limitations by facilitating visibility for crowdfunding projects and participating investors' behavior. Typical crowdfunding platforms offer online communication tools that encourage social interaction among project creators and users, such as updating, commenting, and sharing information on projects with others. Additionally, potential crowdfunding backers can watch other investors' funding behavior for their own investment decision-making. For example, potential backers can monitor how many investors are participating in a crowdfunding project by pledged amount and time.

Meanwhile, considering the characteristics of crowdfunding projects, which are established only for a limited time window and with minimum amount of starting funds, we can expect that achieving a fundraising goal may be a strong motivator for a crowdfunding project. If the minimum amount of the funding goal is not met during a campaign, the pledged amounts are not transferred to creator and the project cannot be launched.

Therefore, in this study, we examine the roles of information-based social interaction (e.g., sharing information on a crowdfunding project) and behavior-based social interaction (e.g., following other investors' behavior) on successful crowdfunding, while investigating the motivational factor of goal achievement. The remainder of this paper is organized as follows. In Sections 2 and 3, we present a literature review on crowdfunding, social interaction and the goal-setting theory of motivation, while developing research hypotheses. In Sections 4 and 5, we present the research methodology and analysis results. Finally, in Section 6, we provide discussion and conclusions with academic and practical implications.

Ⅱ. Literature Review

2.1 Crowdfunding

In general, researchers categorize crowdfunding into four types: donation-based, reward-based, lending-based, and equity-based crowdfunding (Cholakova & Clarysse, 2015; De Buysere et al., 2012). While the donation-based crowdfunding provides a donor contract without any existential rewards, the reward-based crowdfunding offers some types of tangible or intangible rewards in exchange. Different from donation- and reward-based crowdfunding, participants in lending- and equity-based crowdfunding pursue financial profit. The lending-based crowdfunding provides a credit contract which is repaid with interest, whereas the equity-based crowdfunding focuses on a shareholding contract or a revenue sharing model (Cholakova & Clarysse, 2015; De Buysere et al., 2012).

With the emergence of crowdfunding platforms, venture start-ups, and small and medium-sized enterprises can have an opportunity to raise financial resources from a large number of investors. However, despite more financing opportunities, a lot of crowdfunding projects fail to raise enough money on crowdfunding platforms. Regarding relatively new crowdfunding phenomena, diverse research has been conducted on the determinants of successful crowdfunding projects.

Unlike traditional funding mechanisms, which can provide their expertise to investors, crowdfunding platforms try to overcome their limitations by facilitating visibility for crowdfunding projects and participating investors' behavior (Kim & Viswanathan, 2014). In this regard, typical crowdfunding platforms offer online communication tools that encourage social interaction among project creators and users. In addition, potential crowdfunding backers can watch other investors' funding behavior for their own investment decision-making.

Among the four types of crowdfunding, reward-based crowdfunding such as Kickstarter, IndieGoGo, and Tumblbug is the most prevalent of late. Focusing on the influence of online information on crowdfunding investor's funding decision, Bi et al. (2017) investigate a Chinese reward-based crowdfunding platform and find that electronic word of mouth have significant positive effects on funders' investing decisions. With the development of Internet environment, social interaction is prevalent among project creators and backers. However, regarding the determinants of successful crowdfunding, there has been limited research on the effects of social interaction.

2.2 Social Interaction

Conceptualizing social interaction, previous

researchers argue that consumer choice is affected by the others' actions, for example, face-to-face recommendations and passive observations of other consumer's choices (Godes et al., 2005). In a broader concept, social interaction can be defined as an action(s) taken by non-marketers, while it influences others' expected utility for specific products or services (Godes et al., 2005).

In previous research on online social interactions, two types of social interactions among consumers are suggested: information- and behavior-based social interaction (Shen et al., 2016). In consumers' decision making for purchasing, information-based social interaction indicates that consumers may refer to others' opinions and information, while behavior-based social interaction suggests that consumers may be affected by other consumers' behavior (Shen et al., 2016).

Previous research on performance of crowdfunding project determinants examines the impact of social interaction. From the perspective of information-based social interaction, researchers mostly focus on informational factors, such as updates, comments, and information sharing on crowdfunding platforms. Studies examining entrepreneur-sponsor interaction, which was measured by updates and comments for crowdfunding projects, have argued that it has a significant impact on fundraising performance (Zheng et al., 2016). Some studies

emphasize the importance of social ties in information-based social interaction. For example, Mollick (2014) contends that personal networks are related to the success of crowdfunding projects. Thies et al. (2014) argue that social buzz on Facebook and Twitter has a positive impact on crowdfunding campaigns.

From the perspective of behavior-based social interaction, previous research pays attention to herding behavior, which can be defined as "people will be doing what others are doing rather than using their information" (Banerjee, 1992, p.797). As such, Bikhchandani and Sharma (2000) suggest that people tend to herd under uncertainty in financial markets. Investigating a P2P lending platform, Lee and Lee (2012) also confirm herding behavior from participants.

2.3 Goal-setting Theory

A goal can be defined as "the object or aim of an action, for example, to attain a specific standard of proficiency, usually within a specified time limit" (Locke & Latham, 2002). From a motivational point of view, the goal-setting theory posits that goal setting is associated with task performance (Locke & Latham, 1990). It has been argued that specific, challenging goals motivate people to achieve more than easy or no goals at all (Locke & Latham, 1990, 2002; Locke et al.,

1981).

Regarding the success factors of crowdfunding projects, a literature stream pays attention to the motivation of achieving goals for crowdfunding projects. By definition, a project is a well-planned set of tasks to be completed over a fixed period and within certain cost (BusinessDictionary, 2016). Considering characteristics of projects in crowdfunding, such as limited time window and minimum amount of funding for project launch, it is required to pay attention to the motivational factor of goal achievement in crowdfunding projects. Employing the goal-setting theory, researchers attempt to explore the determinants of successful crowdfunding projects from the perspectives of specificity and difficulty of achieving goals.

In this research context, Wash (2013) argues that completing a crowdfunding project is a strong motivator while it leads to larger donations. Moreover, it is argued that funders are likely to return and donate more (Wash, 2013). Developing a predictive model for the successful crowdfunding campaigns, some researchers consider financial mechanisms with money-related items, including funding goals (Chen et al., 2015). Focusing on stretch goals that are seemingly impossible to achieve (Sitkin et al., 2011), Li and Jarvenpaa (2015) contend that they are related to better funding performance.

Ⅲ. Hypotheses Development

Most crowdfunding platforms provide various types of information on each crowdfunding project to help investors' decision-making. First, text-based project description provides basic information on a particular crowdfunding project. Second, project creators try to enhance potential investors' understanding and persuade them to invest in their projects with rich media, such as images and videos. However, text-based project descriptions, images, and videos are static information, which remains constant during the period of fundraising. Therefore, it may wield limited influence on potential investors' investment decision-making.

To address this limitation, typical crowdfunding platforms offer online tools to encourage social interaction among users. Existing supporters and potential supporters may post comments and ask questions on their projects of interest. Based on users' feedback, project creators often update their projects. Moreover, users can share information on the crowdfunding project to others outside of the crowdfunding platform through diverse social media channels. We can thus assume that information-based social interaction, such as the number of comments, number of updates, and number of times a crowdfunding project is shared, may play an important role in crowdfunding project performance.

Naturally, regarding determinants for successful crowdfunding projects, previous research has paid attention to information-based social interaction, such as updates and comments for crowdfunding projects. Some researchers argue that project updates are positively related with fundraising (Beier & Wagner, 2015; Kuppuswamy & Bayus, 2015). Examining project backers' comments, Li and Jarvenpaa (2015) show that the number of comments has a positive effect on fundraising. Particularly, examining the impact of information sharing on the performance of crowdfunding projects, we posit the first hypothesis as follows.

H1: The daily number of times a crowdfunding project is shared has a positive influence on the daily increase of its completion rate.

Regarding determining factors for successful crowdfunding, researchers pay attention to herding behavior. Due to information overload and ease of observing other users' behavior online, Duan et al. (2009) argue that information cascades, information-based explanations for herding behavior, are prevalent in the Internet environment. On most crowdfunding platforms, potential backers can observe other investors' funding behavior without any difficulty. For example, potential backers can monitor how many investors are participating in a crowdfunding project by

pledged amount and time. Additionally, they can find whether current donors' previous funding experience was successful or not, which may provide information on the likelihood of project success. Therefore, we can assume that potential backers may exhibit herding behavior on crowdfunding platforms, watching other investors' behavior. Investigating a case of P2P lending platform in Korea, Lee and Lee (2012) propose strong evidence on herding behavior. Similarly, we expect herding behavior on crowdfunding platforms, which affects the performance of crowdfunding projects. Therefore, we set the second hypothesis as follows.

H2: The daily number of project backers has a positive influence on the daily increase of its completion rate.

Another important characteristic of crowdfunding campaigns is that each funding project is open within a limited time window and a minimum amount of funds should be set. Typical crowdfunding projects present the date on which they closed and the goal amount at which project is launched. If the minimum amount of funding goal is not met during a campaign, the pledged amounts are not transferred to the creator, and the project cannot be launched. Therefore, we can expect that achieving a funding goal can be a powerful motivator for a crowdfunding projects. Adopting a grounded theory approach

and analyzing three cases of crowdfunding platforms, Ordanini et al. (2011) argue that, during the overall investment path of crowdfunding projects, fundraising is mostly done in the earlier and later stages. Regarding the earlier stage of fundraising, researchers argue that social ties with friends and family play a major role (Agrawal et al., 2015; Ordanini et al., 2011).

Meanwhile, as to the later stage of fundraising, we consider the motivation of goal achievement. In the context of an online Q&A community, it can be argued that individual behaviors may vary, depending on the likelihood of promotion to higher levels of membership (Khansa et al., 2015). For example, when a member of a Q&A website is approaching promotion, she or he is motivated to post more answers and fewer questions. Based on previous research, we may hypothesize that the motivation of goal achievement may moderate the relationship

between social interaction and performance of crowdfunding projects. In other words, as the likelihood of success in a crowdfunding project is higher, both information- and behavior-based social interaction may contribute more to fundraising in a crowdfunding project. Therefore, we set up the following hypotheses.

H3a: When the completion rate of a crowdfunding project is increasing, the daily number of times a crowdfunding project is shared significantly influences the daily increase of its completion rate.

H3b: When the completion rate of a crowdfunding project is increasing, the daily number of project backers significantly influences the daily increase of its completion rate.

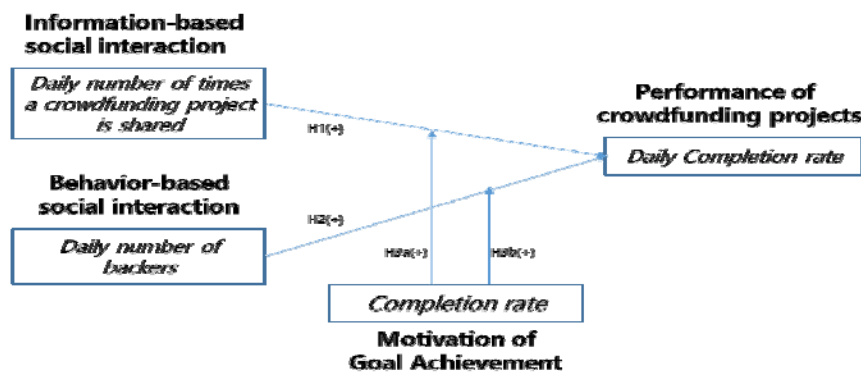In summary, our research model can be depicted as in Figure 1.

Figure 1. Research model

Ⅳ. Methodology

4.1 Data Collection

For this study, we collected data from Tumblbug, a representative crowdfunding platform in Korea. Launched in 2011, Tumblbug specializes in raising funding for a wide range of creative projects, such as films, design, music, photos, fashion, and theater (see Figure 2). Among many types of crowdfunding platforms, such as donation-, reward-, lending-, and equity-based platforms (Moritz & Block, 2016), Tumblbug is a representative reward-based crowdfunding platform in Korea. According to a news article by ZDNet Korea, it is reported that the volume of funding pledged to projects on Tumblbug amounted to approximately USD 2.9 million in 2015 (Ahn, 2016). Moreover, Tumblbug attracts around USD 1.7 million investments from major information technology companies and venture capitalist, including Naver, DCM Ventures, and Strong Ventures (Ahn, 2016).

To support investors' decision on investment, most crowdfunding platforms provide diverse statistics on crowdfunding projects. For example, crowdfunding websites can show the cumulative pledged amount of funding, number of backers, and any updates on projects by creators. However, although there are sharing features on crowdfunding platforms, most do not show how many times a particular crowdfunding project is shared. Therefore, researchers interested in the impact of sharing information on the performance of crowdfunding projects address this issue by studying related social media websites. Examining the impact of social media on crowdfunding campaigns, Hong et al. (2015) collected data from a leading crowdfunding platform (i.e., IndieGoGo) and matched it with data from other social media channels, such as Facebook and Twitter. As a result, Hong et al. (2015) found that the volume of tweets and Facebook sharing in the prior period has a positive influence on fundraising in the subsequent period.

However, there is limited empirical research on how sharing information on a crowdfunding project affects the performance of fundraising. In this study, instead of collecting data from different sources, we focus on a feature of Tumblbug, which provides the number of times a crowdfunding project is shared via Facebook, as to avoid the risk of underestimating the overall impact of information sharing on the performance of fundraising in previous research.

Among various funding projects on Tumblbug, we target projects live from February to August 2016. We developed a Python-based Web-crawler, setting it to retrieve data automatically from Tumblbug on a daily basis. To examine the determinants of successful crowdfunding projects, we focus on

data regarding information- and behavior-based social interaction. Particularly, to measure information-based social interaction, we use data such as the number of times a crowdfunding is shared, number of updates, and number of comments. Additionally, for behavior-based social interaction, we focus on the number of backers for crowdfunding projects. For the performance measure, we focus on the completion rate of a crowdfunding project, which is calculated using the pledged and goal amounts (i.e., completion rate = cumulative pledged amount/target amount). In summary, we collected the data shown in Table 1.
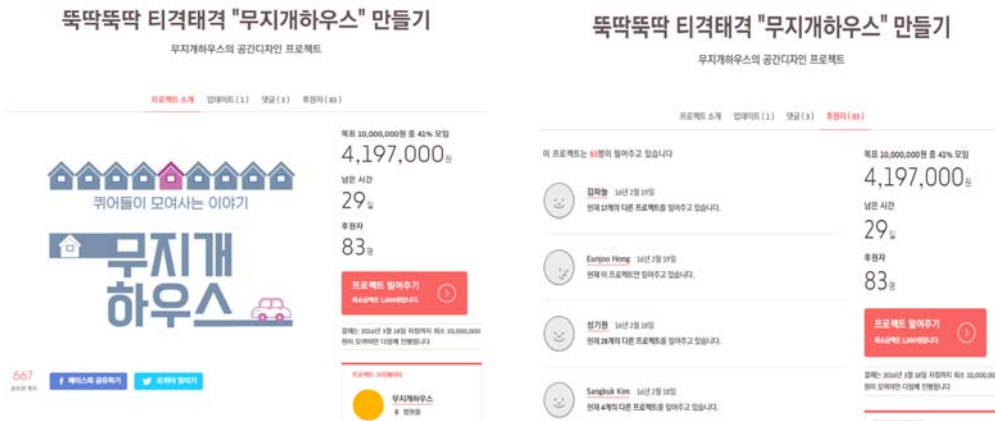

Figure 2. Examples of crowdfunding projects on Tumblbug

Table 1. Collected data

Variable	Description
$PledgedAmt_{i,t}$	Cumulative pledged amount by backers for project i at day t
$GoalAmt_i$	Goal amount of project i
$CompleteRate_{i,t}$	Completion rate of project i at day t
$DailyCompleteRate_{i,t}$	Daily increase of completion rate of project i at day t
$CumShare_{i,t}$	Cumulative number of times project i is shared at day t
$DailyShare_{i,t}$	Daily number of times project i is shared at day t
$CumBacker_{i,t}$	Cumulative number of backers for project i at day t
$DailyBacker_{i,t}$	Daily number of backers for project i at day t
$CumUpdate_{i,t}$	Cumulative number of updates for project i at day t
$DailyUpdate_{i,t}$	Daily number of updates for project i at day t
$CumComment_{i,t}$	Cumulative number of comments for project i at day t
$DailyComment_{i,t}$	Daily number of comments for project i at day t
$Duration_i$	Days when project i was live

4.2 Descriptive Statistics

In this study, to avoid sample selection bias, we target all of the crowdfunding projects that completed funding on Tumblbug from February to August 2016. During the data collection period, we identify 330 live projects. To examine the determining factors for successful crowdfunding projects, we consider projects live over 30 days and successful in fundraising. As a result, we obtain data on 154 crowdfunding projects in various categories, such as publications, design, art/picture, and cartoons. Table 2 shows the descriptive statistics for crowdfunding projects on the day of achieving goal amount. The average target amount of crowdfunding projects is around KRW 4,244,221, while the pledged amount is KRW 10,700,000 on average. The average completion rate is 2.6 (257%). Regarding the variables of information-based social interaction, the average number of times projects are shared is 446, while the average number of updates and the average number of comments are 2.6 and 9.0, respectively. From these statistics, to identify successful crowdfunding projects, we assume that the number of times projects are shared is a more meaningful indicator rather than the number of updates and comments. Meanwhile, the average number of backers is 238. Additionally, the minimum duration for fundraising is 30 days and the maximum duration is 60 days.

In information systems and marketing studies, researchers take the logs of key variables to normalize the distribution and smooth large values (Dhar & Chang, 2009; Duan et al., 2008). As most variables are highly skewed, we employ the same approach and use log-transform variables such as the number of information sharing, number of backers, and number of comments, except ratio variables (e.g., completion ratio). In addition, to examine the causal effects of social interaction on the success of crowdfunding

Table 2. Summary statistics for crowdfunding projects on the day of achieving goal amount

Variable	N	Mean	Std. Dev.	Min	Max
GoalAmt	154	4,244,221	9,494,121	200,000	1.00e+08
PledgedAmt	154	1.07e+07	2.94e+07	300,000	2.63e+08
CompleteRate	154	2.566811	3.643675	.5032	27.5086
CumShare	154	445.7013	1418.862	0	16,417
CumBacker	154	238.0714	761.3034	2	8,871
CumUpdate	154	2.603896	5.1034	0	47
CumComment	154	9.019481	29.5251	0	270
Duration	154	44.5974	10.42466	30	60
Categories (number of projects)	154	Publications (37), Design (31), Art/Photo (25), Games (14), Music (13), Film/Theater (12), Cartoons (9), Others (13)			

Table 3. Correlation matrix of key variables

Variable	[1]	[2]	[3]	[4]
[1] $DailyCompleteRate_{i,t}$	1			
[2] $ln(DailyShare_{i,t-1})$	0.2166***	1		
[3] $ln(DailyBacker_{i,t-1})$	0.3051***	0.5345***	1	
[4] $ln(DailyComment_{i,t-1})$	0.2297***	0.2365***	0.4213***	1

*** $p < 0.01$, ** $p < 0.05$

projects, we employ the lagged variables for the number of information sharing, number of backers and number of comments. Table 3 shows the correlations of key variables, which are overall significant. The daily completion rate of crowdfunding projects is positively correlated with the daily number of times a crowdfunding project is shared (0.2166), daily number of backers (0.3051), and daily number of comments (0.2297) on the previous day. In addition, the variance inflation factors (VIFs) of key variables through pooled OLS regression are less than the commonly accepted multicollinearity threshold with the highest and the average VIFs being 1.60 and 1.41, respectively.

4.3 Analysis Model

In this study, we examine the impact of social interaction and the moderating role of goal achievement for successful crowdfunding projects. Particularly, focusing on the number of project shares and the number of backers, we develop an equation for panel data analysis as follows.

$$DailyCompleteRate_{i,t} = a_0 +$$
$$a_1*ln(DailyComment_{i,t-1}) +$$
$$a_2*ln(DailyShare_{i,t-1}) +$$
$$a_3*ln(DailyBacker_{i,t-1}) +$$
$$a_4*CompleteRate_{i,t}*ln(DailyShare_{i,t-1}) +$$
$$a_5*CompleteRate_{i,t}*ln(DailyBacker_{i,t-1}) +$$
$$u_{i,t} + \varepsilon_{i,t} \qquad (1)$$

In Equation (1), for the dependent variable, $DailyCompleteRate_{i,t}$ represents the daily completion rate of crowdfunding project i at day t, measuring how a crowdfunding project is successful on a daily basis. To operationalize the performance of crowdfunding projects, related studies employ various measures such as the ratio of the total pledged amount and the funding goal, the number of backers, and the success or failure of campaigns (Bi et al., 2017; Li & Jarvenpaa, 2015; Mollick, 2014). Considering previous research and panel data structure of our data, we use the daily increase of the completion ratio which is measured by the ratio of the total pledged amount and the funding goal.

For the focal independent variables, to examine the causal effects of social interaction on the success of crowdfunding projects, we

adopt the lagged variables for the number of information sharing, number of backers and number of comments. *ln(DailyShare$_{i,t-1}$)* denotes the log value of daily number of times a crowdfunding project is shared for crowdfunding project i at day t-1, estimating the impact of information-based social interaction. *ln(DailyBacker$_{i,t-1}$)* represents the log value of daily number of project backers for crowdfunding project i at day t-1, estimating the impact of behavior-based social interaction. As a control variable, we incorporate *ln(DailyComment$_{i,t-1}$)* in the equation, which denotes the log value of daily number of comments for crowdfunding project i at day t-1. According to H1 and H2, we expect both $α_2$ and $α_3$ to be significantly positive.

Additionally, we investigate the moderating role of goal achievement, incorporating interaction terms in the equation. We hypothesize that, when the completion rate of a crowdfunding project is higher, the number of times a crowdfunding project is shared significantly influences its success. *CompleteRate$_{i,t}$*ln(DailyShare$_{i,t-1}$)* is incorporated to capture the moderating impact of goal achievement motivation between *ln(DailyShare$_{i,t-1}$)* and *DailyCompleteRate$_{i,t}$*. Moreover, we hypothesize that, when the completion rate of a crowdfunding project is increasing, the number of project backers significantly influences its success.

CompleteRate$_{i,t}$*ln(DailyBacker$_{i,t-1}$) is to measure the moderating impact of goal achievement motivation between *ln (DailyBacker$_{i,t-1}$)* and *DailyCompleteRate$_{i,t}$*. Based on H3a and H3b, we expect both $α_4$ and $α_5$ to be significantly positive. $u_{i,t}$ controls for unobserved, time-invariant idiosyncratic heterogeneity across crowdfunding projects, and $ε_{i,t}$ is the error term.

V. Analysis Results

Considering the panel data structure in our sample, we start by applying fixed-effects estimation and, additionally, calculating random-effects estimation results for comparison. According to the results of the Hausman test (Hausman, 1978), we find that the fixed-effects model is preferred to the random-effects model in our analysis. Table 4 presents estimation results for Equation (1) with the fixed-effects estimation model.

In column (1), we test the baseline model with the control variable, the daily number of comments (*ln(DailyComment$_{i,t-1}$)*). In column (2), we incorporate the daily number of times a crowdfunding project is shared, and find that the coefficient of *ln(DailyShare$_{i,t-1}$)* is significantly positive (0.014). In column (3), we consider the daily number of backers, and find that the coefficient of *ln(DailyBacker$_{i,t-1}$)* is significantly positive (0.029). When we test

the impact of both $ln(DailyShare_{i,t-1})$ and $ln(DailyBacker_{i,t-1})$ in column (4), their coefficients are again positive at 0.008 and 0.024, respectively. As a result, we confirm that hypotheses 1 and 2 are supported.

Subsequently, we test hypotheses 3a and 3b in columns (5) and (6) of Table 4. First, we consider the impact of information-based social interaction and the moderating role of motivation for goal achievement in column (5). We confirm that the coefficient of $CompleteRate_{i,t}*ln(DailyShare_{i,t-1})$ is significantly positive, which supports hypothesis 3a. Second, we test the effect of behavior-based social interaction and the moderating role of motivation for goal achievement in column (6). We find that the coefficient of $CompleteRate_{i,t}*ln(DailyBacker_{i,t-1})$ is significantly positive, which supports hypothesis 3b. Finally, we find that all of developed hypotheses are supported.

Table 4. Estimation results

	DV: DailyCompleteRate_i,t					
	(1)	(2)	(3)	(4)	(5)	(6)
$ln(DailyComment_{i,t-1})$	0.073*** (0.007)	0.066*** (0.007)	0.053*** (0.007)	0.052*** (0.007)	0.060*** (0.007)	0.050*** (0.007)
$ln(DailyShare_{i,t-1})$	-	0.014*** (0.002)	-	0.008*** (0.002)	0.009*** (0.002)	-
$ln(DailyBacker_{i,t-1})$	-	-	0.029*** (0.003)	0.024*** (0.003)	-	0.025*** (0.003)
$CompleteRate_{i,t}*$ $ln(DailyShare_{i,t-1})$	-	-	-	-	0.003*** (0.000)	-
$CompleteRate_{i,t}*$ $ln(DailyBacker_{i,t-1})$	-	-	-	-	-	0.002*** (0.001)
Constant	0.039*** (0.002)	0.030*** (0.002)	0.014*** (0.003)	0.013*** (0.003)	0.029*** (0.002)	0.013*** (0.003)
R^2	0.1967	0.2895	0.3174	0.3297	0.6780	0.5421
Number of obs.	6,586	6,565	6,371	6,352	6,565	6,371
Number of groups	154	154	154	154	154	154

Note: Standard errors in parentheses., *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

VI. Discussion and Conclusions

In this analysis, focusing on the roles of information- and behavior-based social interaction and the motivational factor of goal achievement, we investigate the determinants of successful crowdfunding projects. Examining 154 crowdfunding projects on Tumblbug, we find that the number of times a crowdfunding project is shared (information-based social interaction) has a positive influence on its success. Additionally, we identify that the number of project backers (behavior-based social interaction) has a positive influence on the success of a crowdfunding project. We also confirm that there are moderating effects of goal achievement in information- and behavior-based social interaction. As crowdfunding is an emergent phenomenon that would benefit from additional studies, it has been under-researched regarding determinants of successful crowdfunding with empirical data. We believe this paper makes multi-faceted contributions from both academic and practical point of views as follows.

From an academic perspective, this study provides a comprehensive research framework for crowdfunding projects. Previous research on this topic adopted a limited approach from the perspective of either information- or behavior-based social interaction. Comprising both types of social interaction and considering project characteristics, this research also investigates the moderating effect of goal achievement motivation for crowdfunding projects. Moreover, this research contributes to enhancing our understanding on the determinants of successful crowdfunding projects. Although crowdfunding is an urgent topic in recent financial technology (Fintech) (Changwon, 2015), there has been limited research in information systems literature with empirical data, particularly with a sample from a Korean-based crowdfunding platform. Using data from Tumblbug, a reward-based crowdfunding platform in Korea, this empirical research identified important crowdfunding project determinants.

From a practical perspective, this study provides practical implications on how to design a successful crowdfunding platform. According to the analysis results, crowdfunding platforms should take into consideration online tools for potential investors, in which they can share information to others outside crowdfunding platforms and monitor other backers' behavior with ease. Furthermore, when the pledged amount of a crowdfunding project is close to its goal amount, the crowdfunding platform may provide an alert to interested users or potential investors to enhance the likelihood of fundraising. For some types of goods, most sales are made in the beginning stage of the release (e.g., films). Therefore, film marketers

typically concentrate on promotion for the opening week of screening. However, our findings on crowdfunding projects imply that as motivations of goal achievement plays a role in crowdfunding projects, we also need to pay attention to promotion for crowdfunding projects in the later stages of fundraising.

Despite academic and practical implications, this research has some limitations. Firstly, considering completion rate of a crowdfunding project as a measure of success, we only focus on limited time span in which fund-raising is completed. However, post-funding stage may play more important role in making successful crowdfunding projects. Future research can address this issue by exploring determinants for successful crowdfunding after funding campaigns. Secondly, due to limitations of data collection, this research considers limited variables such as the number of information sharing and number of backers for measures of social interaction. In general, crowdfunding platforms provide limited number of social interaction variables, for example, the number of information sharing, number of backers, number of updates, and number of comments. If future research can operationalize diverse dimensions of social interaction on crowdfunding platforms, it may contribute to revealing determinants of crowdfunding success. Thirdly, text analysis on comments may be helpful to understand social interaction between project creators and backers. Focusing

on the number of information sharing and number of backers, this study examines information- and behavior-based social interaction in a quantitative manner. However, if future research explores social interaction in various aspects by content analysis on comments, it can enhance our understanding of social interaction on crowdfunding platforms.

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오 세 환 (Sehwan Oh)

현재 경북대학교 경영학부에서 조교수로 재직 중이다. 서울대학교 경제학부(학사)를 졸업했으며 美 카네기멜론대에서 e-Business 석사, 서울대학교에서 경영정보학 박사 학위를 받았다. International Journal of Mobile Communications, Journal of Electronic Commerce Research, ETRI Journal 등에 논문을 게재했으며 주요 연구 관심 분야는 소셜미디어, 크라우드펀딩, 온라인구전, 전자상거래, 정보기술 역량 등이다.

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<Abstract>

Successful Crowdfunding: Focusing on Social Interaction and Goal Achievement Motivations

Sehwan Oh · Hyunmi Baek

Purpose

As crowdfunding is a relatively recent phenomenon, determinants of successful crowdfunding with empirical data have been under-researched. Consequently, we examine the role of information- and behavior-based social interaction on the performance of crowdfunding projects, while investigating the motivational factor of goal achievement.

Design/methodology/approach

From February to August 2016, we collected panel data on 154 crowdfunding projects, which completed fundraising successfully on Tumblbug, a reward-based crowdfunding platform in Korea. In this study, we examine the roles of information-based social interaction (e.g., sharing information on a crowdfunding project) and behavior-based social interaction (e.g., following other investors' behavior) on successful crowdfunding. Additionally, we investigate whether the motivation of goal achievement moderates the relationship between social interaction and performance of crowdfunding projects or not.

Findings

We find that the number of times a crowdfunding project is shared has a positive influence on its performance, as does the number of project backers. Furthermore, we confirm that goal achievement motivation moderates the effects of information- and behavior-based social interaction on the performance of crowdfunding projects.

Keywords: Crowdfunding, Tumblbug, Social interaction, Motivation of goal achievement

<국문초록>

크라우드펀딩 성공요인: 사회적 상호작용과
목표 달성 동기요인을 중심으로

오 세 환 · 백 현 미

연구목적

크라우드펀딩 프로젝트의 성공요인에 대해 다양한 연구들이 시도되어 왔으나 아직까지도 국내외 연구는 제한적인 상황이다. 이에 따라 본 연구는 크라우드펀딩 프로젝트 커뮤니티를 둘러싼 정보 기반(information-based) 및 행위 기반(behavior-based)의 사회적 상호작용뿐만 아니라 펀딩 모금액 달성이라는 공동의 목표가 프로젝트 성공에 미치는 영향에 대해 분석하고자 한다.

연구설계/방법론/접근법

본 연구를 위해 2016년 2월부터 8월까지 국내 대표적인 보상형 크라우드펀딩 플랫폼, 텀블벅 (Tumblbug)에서 펀딩에 성공한 154개 크라우드펀딩 프로젝트들의 패널 데이터를 수집하였다. 이를 바탕으로 정보 기반의 사회적 상호작용 변수(정보 공유 횟수)와 행위 기반의 사회적 상호작용 변수 (후원자수)가 크라우드펀딩 프로젝트 성공에 미치는 영향을 분석하였다. 또한 목표 달성 동기요인이 사회적 상호작용과 크라우드펀딩 프로젝트 성공 간의 관계를 조절하는지 살펴보았다.

결과

본 연구 결과에 따르면 정보 기반의 사회적 상호작용 및 행위 기반의 사회적 상호작용이 크라우드 펀딩 프로젝트 성공에 긍정적으로 유의한 영향을 미치는 것으로 나타났다. 또한 목표 달성 동기요인 이 정보 및 행위 기반의 사회적 상호작용과 크라우드펀딩 프로젝트 성과 간의 관계를 조절한다는 것을 확인하였다.

키워드: 크라우드펀딩, 텀블벅, 사회적 상호작용, 목표 달성 동기