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REWARD VERSUS PHILANTHROPY MOTIVATION IN CROWDFUNDING BEHAVIOR

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Abstract

Crowdfunding is an online platform service that helps creators develop their projects by collecting small amounts of money from the public. This paper examines the relationship between funder motivations and actual funding behavior on crowdfunding platforms. We combine two types of datasets; namely, funder surveys and actual transaction data, to empirically probe the dynamics among reward motivation, philanthropy motivation, funding timing, and funding amount. We further examine how the dynamics are moderated by funders' demographic characteristics. We find that reward motivation is associated with late funding, whereas philanthropic motivation is associated with early funding. When it comes to the funding amount, philanthropy motivation is positively associated with the amount of funding, especially in the earlier stages before reaching the goal amount. On the other hand, the effect of reward motivation on funding amount is, on average, positive, although very marginal. Overall, our results provide new insights for theories of contributions in crowd-driven markets.

Keywords: Crowdfunding, funder motivation, reward motivation, philanthropy motivation, funding timing, funding amount

1 INTRODUCTION

Online platforms are transforming a variety of businesses and activities by facilitating more efficient transactions (Van Alstyne et al. 2016). For instance, crowdfunding markets, i.e., online platforms for funding, provide infrastructure that facilitates interactions between creators with ideas and funders. Crowdfunding platforms help creators develop their projects by allowing them to raise online funding from the public. In addition, crowdfunding allows for easy participation of regular people in backing interesting projects. By creating efficiencies in matching, crowdfunding is gaining popularity in different types of projects such as social ventures, creative works, and technology projects. Since crowdfunding generally allows for different rewards in diverse projects, it is likely that funders participate in crowdfunding with various motivations. However, few empirical studies consider the role of funder motivation in crowdfunding, an aspect that likely affects the success of a funding campaign. If funders participate in a campaign with different motivations and their motivations determine their funding decisions, funder motivations will also affect the campaign's success. Essentially, the previous literature on crowd participation (e.g., crowdsourcing) suggests that the size of a person's contribution depends on their motivation (Arazy et al. 2012; Burtch et al. 2015; Hutter et al. 2015; Leimeister et al. 2009; Roberts et al. 2006). Our study extends this literature by showing that a person's motivations affect timing of funding (hereafter: funding timing) as well as funding amount in the context of crowdfunding, where funding progression is publicly shown to be so very salient to potential funders.

Among possible sets of funder motivations leading to participation in crowdfunding projects, we focus on two prominent and corresponding motivations: reward and philanthropy (Gerber et al. 2012). The reward motivation refers to the desire to receive something of value for supporting projects, whereas philanthropy motivation indicates the wish to provide charitable assistance to the projects. The prior literature in information systems suggests the role of those motivations in diverse contexts, including open source software developments (Roberts et al. 2006; von Krogh et al. 2012) and crowdsourcing (Arazy et al. 2012; Leimeister et al. 2009). While these studies have advanced our understanding of the role of participants' motivations in their decision to participate, we know little about how those motivations impact their contribution behavior, such as the timing or the extent of contribution when they decide to participate. Thus, we examine the effect of funder motivations on funding timing and amount in the context of crowdfunding, in which funding progress is publicly shown to potential funders. We combine two sets of data from two reward-based crowdfunding platforms. We first collected data on project attributes and actual funding from the platforms. We then augmented the data with our funder surveys to capture funder motivations and their characteristics. Our final sample has 559 funders for 131 projects that were launched from April to November 2013.

The results of our analysis suggest the prominent role of two motivations in forming funder behavior. We find that reward motivation is associated with late funding, whereas philanthropy motivation is associated with early funding. This implies that funders with strong reward motivation participate later in a project when the project is highly likely to be successfully funded and their backing is rewarded. On the other hand, funders with strong philanthropic motivation are willing to contribute early to the project, since they just want to provide charitable support to the project. When it comes to funding amount, our results show that philanthropy motivation is positively associated with funding amount; moreover, the association becomes smaller as a campaign progresses. The association between reward motivation and funding amount is, if any, very weak on average. However, when examining an interaction effect between reward motivation and age, we find a significant and negative effect. This suggests that the association between reward motivation and funding amount is positive for younger funders, decreases as age increases, and becomes negative for older funders.

Our study makes several significant contributions. First, it is the first paper to provide empirical evidence of the association between funders' motivation and their funding behaviors in crowdfunding. As such, it extends the previous literature on crowdfunding, which has generally focused on the role of external factors, such as social influence and funder interaction within a platform (Burtch et al. 2013; Burtch et al. 2015; Kim et al. 2016; Mollick 2014). More broadly, our study contributes to the literature on crowd

participation in online platforms by showing how motivation impacts actual participation. Especially, we show that motivation affects participation timing and the extent of participation, which received little attention in the previous literature. Finally, our study provides some practical implications for contribution management of crowds in crowd-driven marketplaces.

2 THEORETICAL BACKGROUND

2.1 Pioneering Literature in Crowdfunding Research

The success drivers of crowdfunding projects represent one of the most important themes in crowdfunding research. In comparison to the selection criteria of venture capitals, definite evidence of past success, external endorsements, and a prepared demonstration are found to affect the project's success (Mollick 2013). Based on social capital theory, Zheng et al.(2014) examine how project creators' social network ties, experience to fund other projects, and the shared meaning between the creator and the funders affect crowdfunding success. It has also been found that project creators' personal networks and expressed project quality were associated with success (Mollick 2014). Lastly, a significant pattern has been verified: a project that had collected most of its funding did not draw participation from many potential funders, whereas successful projects showed a propensity for increasing project funders during the final funding period (Burtch et al. 2013; Kuppaswamy et al. 2013).

Another stream of studies examined the factors affecting the individual funding decision. The demand for a crowdfunding project is estimated to be driven by peer effects (Ward et al. 2010), indicating the effect of social influence on individual funding decisions. Similarly, the effect of funders' geographic origins on a crowdfunding project shows that the distance between a project creator and potential funders is important (Agrawal et al. 2011): local funders are more likely to pledge at earlier stages of the funding period than distant funders and those less responsive to the decisions of others. Kim et al. (2016) show that early funders with expertise have a distinctive influence on later funders in the crowd. Furthermore, the role of funders' characteristics is examined—how those characteristics form their motivations (Ryu et al. 2016). Finally, from the perspective of platform design, permission to control the disclosure of funding information is found to result in an increase in the probability of contribution and a decrease in the amount of contribution at the same time (Burtch et al. 2015).

2.2 Motivation in Information System Literature

From motivational frameworks proposed by previous studies, we reviewed two dominant motivation dimensions: intrinsic vs. extrinsic and self-oriented vs. other-oriented. The division between intrinsic and extrinsic motivation in the self-determination theory (SDT) is the most frequently referenced framework (Deci et al. 1985; Ryan et al. 2000a; Ryan et al. 2000b). The SDT considers a behavior as extrinsically motivated when it is conducted to acquire a significant outcome. On the other hand, a behavior is intrinsically motivated when it is performed for its own inherent joy, fun, or playfulness (Ryan et al. 2000a). Studies have shown how and why both intrinsic and extrinsic motivation are activated in diverse contexts, including studying (Vallerand et al. 1992), pro-social activity (Grant 2008), knowledge transfer (Teigland et al. 2009), online searching (Mathwick et al. 2004), and online games (Hsu et al. 2007). In relation to the context of crowd participation, it is found that participants' intrinsic and extrinsic motivation are related to the contribution level in complex ways (Roberts et al. 2006). For example, some types of extrinsic motivation (i.e., status motivation) enhance intrinsic motivation. In addition, when being compensated to contribute to crowdsourcing projects, extrinsic motivation leads to different levels of contribution whereas intrinsic motivation does not significantly impact contribution levels. In line with the results related to extrinsic motivation, participation in crowdsourcing projects was found to increase significantly in response to the incentives and at higher

membership levels (Khansa et al. 2015; Leimeister et al. 2009). On the other hand, intrinsic motivation oriented toward accomplishment and achievement is also found to promote participation and engagement in crowdsourcing projects (Arazy et al. 2012).

Next, depending on the type of orientation, motivations are divided into two different types: self-oriented motivation and other-oriented motivation (Hemetsberger 2002). Self-oriented motivation involves the uncomplicated link between an actor and an object (e.g., task, product), whereas other-oriented motivation is concerned with the actor's social and emotional relationships around the object (Barnett et al. 1987). In the context of open source software development, potential contributors may participate in certain projects, inspired by self-oriented (e.g., fun, learning, pay), or other-oriented (e.g., altruism, reciprocity) motivation, or both (von Krogh et al. 2012). Furthermore, different types of motivations influence the level of contribution (Roberts et al. 2006). Status motivation leads to above-average contribution levels while use-value motivation leads to below-average contribution levels. Concerning the attitude toward the relationship with others, it is found that distrust of others and desire for status have a significant negative effect on the quantity of contribution in crowdsourcing projects, whereas only distrust of others is positively related to the quality of contribution (Hutter et al. 2015). Finally, in deciding technology acceptance, it is verified that men were more affected by self-oriented motivation (e.g., perceptions of usefulness) while women were more greatly influenced by other-oriented motivation (e.g., perceptions of subjective norm) (Venkatesh et al. 2000).

3 HYPOTHESES DEVELOPMENT

Based on the motivation frameworks discussed earlier, we propose two core motivations for crowdfunding project funders: reward (i.e., extrinsic and self-oriented) and philanthropy (i.e., intrinsic and other-oriented) motivations (Brüggen et al. 2011; Holbrook 2002). The reward motivation is the desire to receive something of value for funding. This motivation is the representative form of extrinsic motivation (Deci et al. 1985; Ryan et al. 2000a; Ryan et al. 2000b) and is associated with “incentive motivation” (Ariely et al. 2009; Brüggen et al. 2011). A related study shows that receiving rewards is one of the main motivations for contributing to crowdfunding projects (Gerber et al. 2012). On the other hand, the philanthropy motivation is the wish to provide charitable assistance to the creators through a concern for humanity. This motivation is rooted in donor motivation (Hibbert et al. 1996; Merchant et al. 2008); however, its scope is broader than that of conventional charity campaigns. Funders also replied that they support crowdfunding projects because they want to support their causes and engage with other community members (Gerber et al. 2012).

We may assume that once a funder's motivation is activated, the motivation—regardless of which one it is—affects the behavioral intention to pledge funds. If the intention is strong enough and no disabler or inhibitor exists, actual behavior will occur (Ajzen 1991; Terborg et al. 1978). Furthermore, some motivations are supposed to directly influence the funding attribute (i.e., timing, amount), whereas others only determine whether a funder will pledge funds. As critical funder motivations, the reward and philanthropy motivations are expected to affect the funding timing and amount in this study.

3.1 Motivation and Funding Timing

Since most crowdfunding sites adopt the “all-or-nothing” mechanism for operating their platforms, funding timing is critical to the project creators and platform operators. If a project does not reach its goal amount by the pledge deadline, all transactions that occurred during the campaign are canceled, wasting resources for all players. Deciding the timing of the funding is important for funders as well. Funders with a higher level of reward motivation are expected to participate in the target project when its feasibility is sufficiently high. This tendency is also found in the venture capital community, where feasibility is one of the main criteria for evaluating startups (Krueger 1993). An empirical study has

shown the propensity of successful projects to see a rapid increase in the number of funders during the final funding period, implying that most funders may have had higher reward motivation (Kuppuswamy et al. 2013). Therefore, it is supposed that a funder with higher reward motivation may postpone the funding until after the project has reached the target amount. Philanthropically motivated funders are expected to join a project in the early stages, since they are less sensitive to project feasibility and more willing to help creators gain early momentum in attracting funders. This tendency may be weakened after the project has collected enough funding, because potential funders will perceive the project as having already established enough funding (Kuppuswamy et al. 2013). Another study shows that the amount and timing of other funder contributions had a substitution effect on potential funders' funding decisions (Burtch et al. 2013). Thus, we expect that funders' philanthropy motivation will promote earlier participation, even before the project reaches the target amount. In sum, the above arguments motivate Hypothesis 1 and 2:

H1. A funder's reward motivation for supporting a crowdfunding project is associated with later funding.

H2. A funder's philanthropy motivation for supporting a crowdfunding project is associated with earlier funding.

3.2 Motivation and Funding Amount

In the typical crowdfunding reward design, funders can choose their pledge amount based on their reward-level preference. Funders who pay more can usually expect more or greater rewards. Many crowdfunding projects provide entry-level rewards to lower the initial barrier to participation. This type of reward includes a letter of thanks, an inclusion in the contributor list, or a mini souvenir. To obtain the main rewards, funders need to pledge more. Higher funder reward motivation indicates recognition of the reward value of the project and consideration of the costs and benefits of the reward (Macmillan et al. 1985; Ueda 2004). This also implies a desire for a higher-level reward. Hence, it is assumed that funders with higher levels of reward motivation tend to pledge more than other funders. Philanthropy motivation is expected to show the same direction of impact as reward motivation. Even philanthropy motivation is associated more with participation itself (Gerber et al. 2012); as the motivation is increasing, it may affect a funder's intention to join the project's cause and considerably raise the amount of funding. In the charitable context, donations are generally higher when participants focus on their feelings rather than on others in need (Dickert et al. 2011). In this situation, they cannot meet their goals with a minimum amount of funding. Thus, it is supposed that the more philanthropically-motivated funders tend to pledge greater amounts. Thus, we hypothesize the following:

H3. A funder's reward motivation for supporting a crowdfunding project is associated with a greater amount of funding.

H4. A funder's philanthropy motivation for supporting a crowdfunding project is associated with a greater amount of funding.

4 RESEARCH METHOD

To conduct our surveys, we collaborated with two reward-based crowdfunding platforms. We first compiled a list of all registered funders who had supported at least one project on either platform, and then sent them an e-mail newsletter with an embedded banner at the bottom introducing the survey. Prior to the main survey, subjects were instructed to specify the most recent project that they had supported and completed the survey based on that project experience. In total, we have 617 responders who contributed to 144 projects during the period of April to November 2013. Of the returned surveys,

21 were eliminated for incompleteness (e.g., missing values) and 37 due to missing transaction data. We then also collected data on individual funding as well as characteristics of funded projects by our subjects.

We used two dependent variables: funding timing and funding amount. Both variables are based on funders' actual transaction data. Funding timing is the share of the raised amount of funding to the amount of the funding goal, which is set by a project creator. The variable is used to capture whether a funder backs a project later or not. When we use this variable in our model, we use various cutoff points (i.e., 100%, 30%, 60%, 90%, and 120%) to generate a binary variable. For instance, when we use 100% as a cutoff value, we create a dummy variable that is equal to 1 if a funder's funding timing is greater than 100%, and 0 otherwise. This allows us to test how funder motivations affect funding timing as a campaign progresses. Our second variable is the funding amount, which refers to the amount of a single backing by a funder. We log-transform this variable in our analysis.

Our focal independent variables are two motivation variables: reward and philanthropy motivations. We primarily adopted the instruments used in Brügger et al. (2011) and Grant (2008). The constructs and questionnaire items were converted into a revised form suitable for the specific context of crowdfunding. We use a multiple-item method based on a seven-point Likert scale, ranging from "strongly disagree" to "strongly agree."

Finally, our analysis includes several control variables, including demographic information (e.g., age, gender) and funding experience. Those are collected from our surveys and transaction data. We also include dummies for project type to capture inherent differences in funding behaviors across project types. Table 1 presents the operational definitions for these measures.

Construct	Operational Definition
Dependent Variable: Funding Behavior	
Funding timing (FT)	Whether a funder pledged before reaching 100% of the project's goal amount (=1) or after that (=0)
Funding amount (FA)	Logarithm value of the actual funding amount
Focal Independent Variable: Funder Motivation	
Reward motivation (RWRD)	Degree to which a funder needs to receive something valuable in recompense for funding
Philanthropy motivation (PHIL)	Degree of a funder's will to provide charitable assistance to the creator because of a concern for humanity
Control Variable	
Platform (PLTF), age (AGE, 10–19 = 1, 20–29 = 2, 30–39 = 3, 40–49 = 4, 50– = 5), sex (SEX, male = 1, female = 0), funding experience (FEXP, number of previous fundings), project type (publication, music, movie, game, arts, donation)	

Table 1. Operational Definition of Constructs

In our final sample, we have 559 funders in 131 projects to test the hypotheses. The portion of female funders (64.2%) in our sample is almost twice that of male funders (35.8%). Funders in their 20s, among other age groups, are identified as the main contributing group (62.3%), followed by funders in their 30s (19.1%) and 10s (13.6%). In our sample, more than half of respondents (66.4%) are novice funders who have not experienced crowdfunding projects before. The platform operators confirmed that the gender,

age, and funding experience ratios of the respondents were similar to those of all registered members, eliminating the potential for non-response bias. Table 2 outlines the demographic profile of the sample.

Type		Number	%
Gender	Male	200	35.8
	Female	359	64.2
Age	10–19 years	76	13.6
	20–29 years	348	62.3
	30–39 years	107	19.1
	40–49 years	23	4.1
	50+ years	5	0.9
Platform	A	257	46.0
	B	302	54.0
Funding experience	1	371	66.4
	2	66	11.8
	3	43	7.7
	4	28	5.0
	5	10	1.8
	6+	41	7.3
Total		559	100.0

Table 2. Demographic Profile of the Respondents

5 RESULTS

5.1 Measurement Model

We examined the internal consistency of the surveyed constructs using Cronbach's α to assess the reliability of the measurements (Cronbach 1951). As shown in Table 2, the Cronbach's alpha values of all constructs were greater than the acceptable level of 0.70, the lowest being 0.864 (Hair et al. 1998). To validate the measurement model, two types of validity were assessed: convergent validity and discriminant validity (Fornell et al. 1982). The convergent validity was assessed by examining the average variance extracted (AVE). The AVEs of the constructs were all greater than 0.70, indicating an acceptable level of convergent validity (Gefen et al. 2005). The discriminant validity was checked through the result of the confirmatory-factor analysis, which showed that each measurement item was weighted much higher on its assigned construct, confirming the item's discriminant validity (see Table 3 for detailed results). The descriptive statistics and correlations of variables are summarized in Table 4.

Construct	Measurement Item	Factor Weight	AVE	Cronbach's Alpha
RWRD	(I decided to support the project in this service because...) of the reward I can get in return for my participation.	0.916	0.835	0.901
	I calculated that the reward would compensate my effort.	0.921		
	The reward of the project is important to me.	0.905		

PHIL	(I decided to support the project in this service because...) I want to help the creators of the project.	0.818	0.710	0.864
	I believe it is important that I assist the creators of the project.	0.893		
	I want to help the creators of the project to improve their output.	0.852		
	I find it is my responsibility to support the creators of the project.	0.805		

Table 3. Measurement Items and Their Validity Assessments

Variable	Descriptive Statistics				Correlations							
	Mean	Std. Dev.	Min	Max	1	2	3	4	5	6	7	8
1. RWRD	4.676	1.810	1	7	1.000							
2. PHIL	5.677	1.238	1	7	-0.059	1.000						
3. FA	9.978	0.746	6.907	12.611	-0.034	-0.005	1.000					
4. FT	0.611	0.487	0	1	0.148	0.027	0.006	1.000				
5. GNDR	0.357	0.479	0	1	0.048	-0.126	-0.035	-0.002	1.000			
6. AGE	2.164	0.739	1	5	-0.166	0.037	-0.038	0.137	0.132	1.000		
7. FEXP	2.141	2.693	1	27	0.014	-0.026	-0.022	-0.040	0.033	0.043	1.000	
8. PLTF	0.540	0.498	0	1	0.317	-0.046	-0.148	0.117	0.149	0.074	0.003	1.000

Table 4. Descriptive Statistics and Correlation Matrix for Variables

5.2 Regression Analysis

We find support for Hypothesis 1, which predicts that reward motivation is associated with later funding. Column 1 of Table 4 shows that when a funder backs a project with a higher reward motivation, she is likely to do so later, after a campaign has met its funding goal. When we use different cutoff values, columns 2–5 suggest that this effect is realized even before the success of the campaign, if funders with strong reward motivations believe that the campaign is highly likely to succeed soon. This is consistent with the theory discussed in Section 2. Regarding the philanthropy motivation, our results also support Hypothesis 2. As expected, the philanthropy motivation is negatively associated with the dummy for 100% of funding timing in column 1 of Table 5, although not significant. When we use different cutoff values, we see the significant effect of philanthropy motivation in early periods of a campaign. When a campaign is at an early stage, funders with strong philanthropy motivations tend to contribute earlier than those without. This effect disappears when a campaign nears the success of its goal. This implies that philanthropy motivation helps a campaign to gain momentum at early periods, which several studies have shown to be a crucial factor for crowdfunding success (Burtch et al. 2013; Colombo et al. 2015). With respect to the control variables, our results are in line with expectations. We find a negative association between age and the funding timing, implying that older people tend to contribute earlier (Midlarsky et al. 1989). Also, we find that funding experience is associated with early funding (Kim et al. 2016). This might imply that experienced funders are more engaged in the community and more confident about early funding.

Variables	DV= Funding Timing				
	(1) FT=1 if funding timing ≥ 100%	(2) FT=1 if funding timing ≥ 30%	(3) FT=1 if funding timing ≥ 60%	(4) FT=1 if funding timing ≥ 90%	(5) FT=1 if funding timing ≥ 120%
RWRD	0.029** (0.013)	0.008 (0.010)	0.017 (0.015)	0.030** (0.012)	0.028** (0.012)
PHIL	-0.020 (0.016)	-0.032** (0.014)	-0.036* (0.021)	-0.018 (0.018)	-0.012 (0.014)
PLTF	-0.419*** (0.097)	-0.072 (0.058)	-0.195** (0.086)	-0.338*** (0.098)	-0.462*** (0.114)
GNDR	0.091 (0.058)	0.057 (0.046)	0.012 (0.054)	0.056 (0.059)	0.094 (0.063)
AGE	-0.059** (0.025)	-0.016 (0.027)	-0.056** (0.028)	-0.063*** (0.023)	-0.065** (0.025)
FEXP	-0.060 (0.031)	-0.072*** (0.023)	-0.061** (0.029)	-0.055* (0.031)	-0.060** (0.029)
Project Category	Yes	Yes	Yes	Yes	Yes
N	559	559	559	559	559
Adjusted R2	0.183	0.034	0.054	0.140	0.234

Table 5. Results of Regression Analysis (DV = Funding Timing)

Notes: This table reports the results of OLS regressions with standard errors clustered at project level. Standard errors are given in parentheses. The symbols *, **, and *** refer to significance at the 10%, 5%, and 1% levels, respectively.

Table 6 shows OLS results on funding amount. Our results provide marginal support for Hypothesis 3 on the association between reward motivation and funding amount. When we have the full sample in column 1, the association between reward motivation and funding amount is positive—which is consistent with our expectation—but not significant. When we look at different cutoff points, the association is generally insignificant, except for when we use 60% as a cutoff point. Overall, Hypothesis 3 is marginally supported. This implies that reward motivation might lead funders, (especially early funders) to contribute a greater amount to a project although this is statistically weak. The results suggest that funders with reward motivation would increase the funding amount only within a certain timing range, excluding the earlier stage and the period after the projects have almost reached the goal amount. They might not add more funding in the very early stage because the risk of failure to receive the reward still exists. They also moderate the funding amount when the accumulated amount has almost reached the bar, because there is a high probability that others will contribute the required amount. Regarding the association between philanthropy motivation and funding amount in Hypothesis 4, our results provide supporting evidence for the hypothesis. When we use the full sample in column 1, the association is positive and statistically significant. This suggests that when a funder has a strong philanthropy motivation, she tends to pledge more. This finding complements a prior finding that intrinsic (Arazy et al. 2012) and other-oriented (von Krogh et al. 2012) motivation is promoting participation and engagement in crowd-driven platforms. Moreover, our additional analyses in columns

2–5 show that the association is stronger for early funders. This result shows the significant relationship between motivation and funding amount, especially for early funders. In the special context of the “all-or-nothing” mechanism, securing the goal amount is the most critical point for every crowdfunding project creator. In this sense, reaching the goal amount is regarded as a shared goal among project creators and their early funders, especially the philanthropically motivated ones. Along with our findings related to Hypothesis 2, this implies that philanthropy motivation is a crucial factor to encourage early funding with larger amounts, which should be a key driver for any campaign’s success (Burtch et al. 2013; Colombo et al. 2015).

Variables	DV = Funding Amount				
	(1) Full Sample	(2) FT <= 30%	(3) FT <= 60%	(4) FT <= 90%	(5) FT <= 120%
RWRD	0.037 (0.028)	0.045 (0.047)	0.078** (0.038)	0.047 (0.029)	0.036 (0.027)
PHIL	0.032* (0.019)	0.129** (0.058)	0.085** (0.035)	0.050* (0.027)	0.028 (0.022)
PLTF	-0.101 (0.154)	-0.227 (0.255)	-0.118 (0.237)	-0.063 (0.216)	-0.102 (0.181)
GNDR	-0.092 (0.118)	-0.217 (0.158)	-0.218 (0.146)	-0.142 (0.143)	-0.184 (0.121)
AGE	0.174*** (0.056)	0.204* (0.120)	0.235*** (0.086)	0.242*** (0.069)	0.231*** (0.068)
FEXP	-0.014 (0.061)	0.015 (0.099)	-0.038 (0.081)	-0.023 (0.069)	-0.028 (0.064)
Project Category	Yes	Yes	Yes	Yes	Yes
N	559	125	220	311	399
Adjusted R ²	0.090	0.165	0.171	0.145	0.146

Table 6. Results of Regression Analysis (DV = Funding Amount)

Notes: This table reports the results of OLS regressions with standard errors clustered at project level. Standard errors are given in parentheses. The symbols *, **, and *** refer to significance at the 10%, 5%, and 1% levels, respectively.

6 DISCUSSION AND CONCLUSION

6.1 Discussion

The results of our study present the prominent role of two motivations in understanding and explaining a crowdfunding funder’s behavior. Reward motivation is a powerful predictor, but it is not a game changer because it tends to delay the pledge until after a project reaches the goal amount, which is the most critical point for the crowdfunding project. Instead, it has another important role of generating backup supporters that lead to additional funding for projects. In other words, there need to be other attractions to transform funders with reward motivation into early movers. In contrast, the philanthropy motivation was useful for attracting early funders, whereas it is hard to expect that funders with a philanthropy motivation will actively participate in crowdfunding projects after reaching the goal amount.

From the perspective of the funding amount, and based on the finding of both motivations' effects, we can discuss the diverse relationship between the effects and other factors such as funding timing and age difference. The influence of funding timing on the relationships between the motivations and the funding amount generates important implications. In the special context of the "all-or-nothing" mechanism, which almost all crowdfunding platforms adopted as their default funding systems, securing the goal amount is the most critical point for the creators of every crowdfunding project. In this sense, it is regarded as a shared goal among project creators and their early funders. In earlier stages, the role of philanthropy funders is substantial. They pledge relatively more in those stages, because they want to contribute to the completion of the project. Naturally, after the project has reached the goal amount, this increment disappears. Reward-motivated funders are rather sensitive to the range of timing. They may increase their funding amount only in a certain range of timing, excluding the very early stage of funding and the stage after the projects have almost reached the goal amount. They would not add more value in the very earlier stage because there still exists the risk of failure to receive the expected reward. They also might moderate the funding amount after the accumulated funding has almost reached the bar, because there is a high probability that some others would fill the gap. Thus, it is required to understand and leverage the "selfishness" of reward-motivated funders for successfully securing the goal amount.

6.2 Conclusion

Our paper empirically validated the effect of motivation on actual crowdfunding behavior, using a rich dataset that combined several dimensions of variables. Whereas most previous empirical studies adopted either transactional or survey data mainly at a project level, we conducted a survey of crowdfunding memberships and utilized the transactional data for an in-depth understanding. The findings and implications of this study offered several contributions to both the academic and the practical domains.

In scholarly terms, we believe that our empirical study advances the understanding of crowdfunding at an individual level. We suggested the framework of dimensions and types of motivation to explain users' behavior in crowdfunding situations. Specifically, to the best of our knowledge, this is the very first study to examine the direct role of motivation in forming characteristics of funder behaviors. We also verified the important roles of motivation in the information systems context, particularly for crowd participation in online platforms; prior literature in those domains rather focuses on the relationship between motivations and the contribution itself. Finally, our study extends the literature on the effect of demographic differences on financial behavior. The results confirm the distinctive characteristic of reward-based crowdfunding as a combination of charity and investment.

Furthermore, our paper also contributed to the practical domain, particularly for both crowdfunding platform operators and potential project creators. We suggested the existence of diverse types of funders in crowdfunding platforms. Based on their motivations, platform operators and potential project creators must target the appropriate funders; understanding the characteristics of potential funders and differently targeting them is critical for the success of crowdfunding projects. The results of our study imply that understanding their motivations and characteristics is very important in order to satisfy users. The results of our study also offered practical advice. Primarily, we proposed a strategy for successful funding and reward design. Each strategy must be selected based on the project's characteristics, and targeting a suitable early-funder group is the first step to success. Moreover, promoting funders' reward motivation for further success is important. By proposing "first come, first served" or upgrade options (i.e., adding functions for more funding), reward-motivated funders are also stimulated to participate.

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