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Antecedents of Crowdfunding Project Success: An Empirical Study

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Abstract: Crowdfunding platforms are social media websites that allow people to invest small amounts of money that add up to fund valuable larger projects. These websites are structured around projects with project goals, duration, and registered initiator. We use a dataset from a reward-based crowdfunding platform – Demohour - to examine the antecedents of the successful project. The results suggest that project goal, duration, initiator participation and experience, the number of followers, the source of followers, and the number of visitors significantly influence the project success.

Keywords: crowdfunding, antecedent, Demohour, project success

1. INTRODUCTION

Crowdfunding refers to “an open call, essentially through the Internet, for the provision of financial resources either in form of donation or in exchange for some form of reward and/or voting rights in order to support initiatives for specific purposes”^[1]. As a novel source of capital for entrepreneurs, crowdfunding emerged from the concepts of microfinance^[2] and crowdsourcing^[3]. Through the third crowdfunding platform (e.g., Kickstarter, Indiegogo, To Gather. Asia, Spot. Us, and Donors Choose), initiators can launch the project and get the financial support from investors. By the exchange relationship between initiators and investors, crowdfunding can be divided into reward-based, donation-based, lending-based, and equity-based^[4]. Since crowdfunding permits low-cost, centralized advertising of project ideas, secure and trustworthy contribution to those projects, and simultaneous solicitation by a large number of projects, global crowdfunding market develops rapidly. Massolution’s studies indicated that the amount of the market would be more than 5.1 billion in 2013^[5]. World Bank’s research also predicted that the total amount of all the crowdfunding market will reach 93 billion around the world by 2025^[6].

How to increase success rate not only ensures the crowdfunding market to develop healthily and rapidly, but also attracts many attention from scholars. Several factors have been found to influence the success of the project, such as characteristics of projects, initiators, investors and the interaction between initiators and investors. In terms of project characteristics, the factors include the amount of project funding, funding period, the length of the project description, readability, spelling errors, the means of project presence (with video or not), timeliness of information update, etc.^[7]; as for investors characteristics, the spatial distance and the affinities on the Facebook between project initiators and the investors determine whether the investors will support the project to influence the success of the whole project^{[8][9]}; for the interaction between initiators and investors, mainly refers to comments and replies related to the project between the two parties during the period of financing.

As mentioned above, previous studies focused the antecedents of crowdfunding projects success on characteristics of projects, initiators, investors or the interaction between initiators and investors. No studies systematically investigate all four kinds of factors and their effects on crowdfunding project success. In order to fill the research gap, we collect 400 samples from one famous Chinese crowdfunding platform title as Demohour to examine the antecedents of the project success.

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2. HYPOTHESES

2.1 The project preset

The preset phase is the time period from launching one project to accepting funds. Many crowdfunding platforms request the initiators to describe the necessary information about their project, for example, the main risks of the product, team experience and project plan.

Project goal refer to the amount initiators seek to financing using crowdfunding. Demohour follows an “all or nothing” model, so backers’ pledge money is only collected if the goal is reached. While many factors may influence project goal, there is a measure for backers to select realistic project goals, since rising too little money may result in project non-operation, and high project goals which means complex may make projects less likely to succeed^[4].

Funding duration of the project is that the number of days to accept the funded in the platform. The extended funding duration will reduce the probability of project success^[10]. While the longer funding duration is reflected that the initiators have no enough confidence on their project. Thus:

H1a: Project goal are negatively associate with the success of the crowdfunding project.

H1b: Funding duration are negatively associated with the success of the crowdfunding project.

2.2 Project initiator

One key difference between the crowdfunding and the traditional funding lies in creators who initiate the crowdfunding projects. In traditional financing, specific qualifications or collaterals are required for creators to get funds from financial markets. However, anyone or any institution, without any requirements, can initiate one project in a crowdfunding market. Therefore, information asymmetry exists between creators and backers, which results in great difficulties for bakers to discern these projects with high quality. The experiences of initiator participation can be seen as signals of high quality projects^[11], and reduce the level of information asymmetry in the crowdfunding market, which in turn to impact the crowd’s investment decisions.

The project initiator’s experience refers to number of projects initiated by the initiator on the platform. Initiator’s experience can be considered as competency which is one important dimension of resource uncertainty in project management^[12]. Meanwhile, accumulated experience of the initiators could help to solve the problems encountered in projects^[13]. In crowdfunding, projects with rich experienced initiator are more likely to be successful. Thus:

H2a: Initiators participation is positively associated with the success of the crowdfunding project.

H2b: Initiators experience is positively associate with the success of the crowdfunding project.

2.3 Project participants

Followers can browse and make comments on the project in the warm-up period. Source of followers is that other projects include the number of two or more of the current project supporters. The availability of this rich information has important implications for potential contributors’ decision making^[7]. Meanwhile, Agrawal, Catalini and Goldfarb people who have similar interests are more likely to focus and invest to project, which means that followers in warm-up period usually can be potential investors in funding period, their investments play a vital role to project success. Therefore, we propose the following hypothesis:

H3a: The number of followers is positively associated with the success of the crowdfunding project.

H3b: Sources of followers are positively associated with the crowdfunding project.

Visitors mainly browse and comment on the project in the funding period. Funding durations can affect the performance of the output in some ways: a duration in the funding period potentially exposes the project to a greater proportion of the visitors, thus raising awareness of the project. Merely by being exposed to a project,

a visitor is more likely to click on and read the associated project (rather than some other project), because of increased familiarity and reduced uncertainty^[14].

Backers refer to investors during funding period. Bogost point out that backers of project could make a investment decision after browsing projects, which is by watching video, knowing initiators experience and other related situation^[15]. So backers could provide more investment for the project.

Backers/visitors is the conversion rate of browse and support of the crowdfunding project. The higher conversion rate of browse and support means that more people invest the project after browsing and an overview of the projects. Therefore, we propose the following hypothesis:

H4a: The number of visitors are positively associate with the success of the crowdfunding project.

H4b: The number of bakers are positively associated with the success of the crowdfunding project.

H4c: The conversion rate of browse and support are positively associated with the success of the crowdfunding project.

2.4 Project interactions

Interactions refers to the project interaction between the initiators and participants, including the topic number, and topic reply. Topic number is the number of topics in the warm-up period and funding period, the project initiators and participants of the project published. These topics includes details on the number and timing of posting. The more the topic, to a certain extent, the project can show concern and browsing of people on the project itself has a higher interest may become a potential investor, and thus more likely to project success. Mollick noted investors and potential investors can post comments about projects, often expressing enthusiasm or displeasure.

Comment is that replies of topics posting by initiators as well as participants. Mollick noted investors and potential investors can post comments about projects, often expressing enthusiasm or displeasure. Reply rate is the ratio of the comments and the project topics. Under normal circumstances, the interaction between initiators and supporters of the project is to browse the people on the project has some degree of concern, and the answers will help participants of the project have a deeper understanding, therefore more likely to support the project. And higher reply rate will increase the likelihood of project success. Therefore, we propose the following hypothesis:

H5a: The number of topics are positively associated with the success of the crowdfunding project.

H5b: the number of comments are positively associated with the success of the crowdfunding project.

H5c: the ratio of reply rate is positively associated with the success of the crowdfunding project

3. RESEARCH METHODOLOGY

3.1 Measures

Key variables of models in the data include a variety of factors. This data is summarized in Table 1:

Table 1. Study variables

Dimension	Variables	Definition
Project Success	1 Pledge	Project financing for the entire period of the total funds funded.
	2 Funding level/Ratio	Raising the proportion of project financing period to meet or exceed the target amount of funding.
The project preset	3 Project goal	Financing for the project were initiated when you want to get the total funds, the project initiated by the project creator at a pre-set time.
	4 Duration	Financing for the project end date minus start date of financing (by the day)
Initiator	5 Initiator participation	As the number of sponsors who support the investor funded projects in the platform
	6 Initiator experience	Number of projects initiated by the initiator on the platform
participants	7 Followers	In the warm-up period, the number of browse and comment on the project

		participants
	8 Source of followers	Other projects include the number of two or more of the current project supporters
	9 Visitors	In the funding period, the number of browse and comment on the project participants
	10 Bakers	The number of investors during funding period
	11 Bakers/Visitors	The ratio of the number of bakers and viewers during funding period
Project interactions	12 Topics	In the warm-up period and the funding period, the number of followers, viewers and bakers' comments to the project.
	13 Comments	Replies to crawl individually and then summed to calculate
	14 Comments/Topics	In the warm-up period and the financing period, the ratio of the number of topics and topic replies number

3.2 Data collection

Because of the law's restrictions, the reward-based crowdfunding platforms dominant the domestic market. The main crowdfunding platforms adopt "all or none" funding model. That's to say, if the total funds don't reach the target goal, the funds will return to the accounts of the bakers.

Data for our study come from publicly available information on the Demohour. Demohour was set up in the year of 2011, and it organizes as multiple categories of the project, including art, comics, dance, design, fashion, film, food, videos, music, photography, publishing, technology and theater. By April 24, 2014, Demohour has received more than 13,000 applications, and formally launched crowdfunding projects about 1500 projects. Among the 1500 projects, about 43% of these projects finally succeeded.

We extracted information on all successful projects posted on the platform from 2011 to April 2014 using Datascraper and Metastudio. To allow a time buffer for community activity around a project to stabilize^[16]. Projects completed after April 24, 2014 are dropped from the analysis. Thus, three years of daily data on 400 projects with complete information that began on or after January 1, 2011 and concluded by April 24, 2014 is available for analysis purposes.

4. HYPOTHESES TESTING

4.1 Descriptive statistics

As of April 24, 2014, the total number of the 400 projects have 5,243,210 visitors browsing on the platform, in which 79,907 people were investing for different projects, with an average browsing support conversion rate of 1.52%. The sum of the target platform, the amount of funding 400 projects for 7,147,039 yuan, the actual total amount of financing for 17,852,097 yuan, raising the ratio reached 249.78%. The number of topics by initiators, viewers, investors reach a total of 16,131, 85,272 get a comments, the interaction between initiators and participants was 528.62%.

Descriptive statistics for these projects are reported in Table 2. The average project has a goal of just over 17867.60 yuan, and finally receives more than 44630 yuan. Projects tend to last for 41 days; Initiators generally support other projects on the platform, however, they have relatively less experience in initiate project. The average project is browsed by 1.7 followers in the warm-up period and commented by 13108.03 visitors in funding period, and then receives money from almost 199 backers.

Table 2. Variable correlation coefficient matrix

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1	44630.24	160339.99		0.673**	0.111*	0.808**	0.651**	-0.041	-0.016	0.632**	0.835**	0.253**	0.668**	0.630**	0.107*
				0.000	0.026	0.000	0.000	0.410	0.751	0.000	0.000	0.000	0.000	0.000	0.032
2	804.58%	8608.65%	0.561**	-0.014	-0.031	0.249**	0.284**	-0.018	-0.017	0.131**	0.396**	0.191**	0.290**	0.245**	0.018
			0.000	0.781	0.540	0.000	0.000	0.719	0.733	0.009	0.000	0.000	0.000	0.000	0.721
3	17867.60	833007.53													
4	41.12	17.17		0.232**											
				0.000											
5	418.12	879.16		0.692**	0.224**										
				0.000	0.000										
6	8.97	11.08		0.339**	0.067	0.744**									
				0.000	0.181	0.000									
7	1.70	6.20		-0.023	0.003	-0.038	-0.072								
				0.643	0.951	0.443	0.153								
8	1.36	0.89		-0.049	-0.072	-0.041	-0.026	0.062							
				0.333	0.149	0.414	0.600	0.216							
9	13108.03	29908.87		0.669**	0.317**	0.893**	0.589**	-0.016	-0.042						
				0.000	0.000	0.000	0.000	0.755	0.403						
10	198.89	508.87		0.660**	0.181**	0.920**	0.744**	-0.025	-0.049	0.797**					
				0.000	0.000	0.000	0.000	0.611	0.330	0.000					
11	1.48%	1.09%		0.121*	-0.146**	0.182**	0.348**	-0.023	0.008	0.015	0.346**				
				0.016	0.003	0.000	0.000	0.646	0.878	0.763	0.000				
12	38.07	50.67		0.437**	0.171**	0.743**	0.636**	0.022	-0.016	0.602**	0.604**	0.079			
				0.000	0.001	0.000	0.000	0.658	0.756	0.000	0.000	0.116			
13	192.13	366.24		0.446**	0.044	0.785**	0.676**	0.012	-0.049	0.616**	0.727**	0.167**	0.762**		
				0.000	0.382	0.000	0.000	0.816	0.327	0.000	0.000	0.001	0.000		
14	521.83%	609.09%		0.073	-0.172**	0.216**	0.212**	-0.019	-0.085	0.173**	0.291**	0.163**	-0.021	0.367**	
				0.144	0.001	0.000	0.000	0.705	0.090	0.001	0.000	0.001	0.672	0.000	

** Significant correlation at 0.01 level (bilateral), and * at the 0.05 level (bilateral) significant correlation.

4.2 Regression analysis

The R-Square indicates that 86.4% and 64.2% of total variation is explained by the regression model. ANOVA analysis shows that the overall model is significant with an overall F value of 224.363 and 63.304. Some hypothesized direct effects on pledge and funding ratio are significant. Hypotheses 1a, 1b, 2b, 3a, 3b, and 4b are approved. Project goal, duration, initiator experience, followers, source of followers, visitors and backers/visitor have a significant impact on the pledge and funding ratio. The initiator participation, backers, topics and comments do not have a significant effect on the pledge and funding ratio. Thus, hypotheses 2a, 4a, 4c, 5a and 5b are rejected. Table 3 gives an overview of the conceptual model with values.

Table 3. Regression Results

Variable	Dependent Variable: Pledge	Dependent Variable: Funding Ratio
	Model 1	Model 2
Constant		
Independent Variables		
Project goal	0.532**	-0.442**
Duration	-0.229**	-0.270**
Initiator participation	-0.062	-0.061
Initiator experience	0.161*	0.109
Followers	0.210*	0.236**
Source of followers	0.154**	0.151**
Visitors	0.489**	0.441 **
Bakers	0.074	0.078
Bakers/Visitors	6.021**	4.446
Topics	0.007	0.024
Comments	-0.015	-0.026
R Square	0.864	0.642
F Value	224.363**	63.304**

5. DISCUSSIONHOW

5.1 The project setting

5.1.1 Project goal

From the results of the regression analysis, the preset target amount of funding and funding duration significantly influence the final pledge and funding level. Not difficult to find, funding goal is higher, eventually raised more money, however, the lower funding level. Obviously, the project with high funding goal, which ultimately must be obtain a relatively large amount in order to funding success, nevertheless, its relatively large amount, thereby obtaining the target amount of money exceeds small, so that a relatively low ratio of funding.

5.1.2 Duration

The longer project funding duration, the lower the pledge and the ratio of the funding will be. The reason is that the funding of long term projects potential investors will realize a higher complexity of the implementation of the project, and thus more likely to fail, based on a consideration of the risk of their own funding, will be reduced even without funding. At the same time, a longer duration probably shows initiators is lack of confidence on the performance of the project, which to some extent will reduce the attractiveness of the project.

5.2 Participants

In the warm-up period, the project get more concern, which means more followers and more follower source, then initiator can obtain a high level funding ratio, because the follower during the warm-up period can be regarded as a potential investor. When the project can attract more concerned, it is possible to raise more money in the funding stage.

5.3 Project interactions

According to the regression analysis, there was no significant relationship between the project interaction and the funding pledge as well as funding ratio. Observing the platform, can be found either in the warm-up period as well as funding period, all the interactions between initiator and followers (investors) can be published

in the platform. And interactive content includes positive and negative attitude towards the project. We can see, it is not always a positive influence, and therefore the interaction of the project does not promote it to raise more money.

6. CONCLUSIONS

In this paper, we studied projects success in a reward-based crowdfunding platform, Demohour. We investigated the factors that affect funding pledge and ratio throughout a funding period.

We observed that setting a lower project goal will help the project achieve a higher ratio of funding, and select a shorter duration in favor of the project funding is more likely to reach the goal and then get a higher ratio of funding. Initiators should pay attention to setting a rational project goal and duration. The higher goal and longer duration are less likely to increase the pledge. Thus when initiating the project, initiators on the crowdfunding platform should be a reasonable choice for a relatively lower amount of project goal and shorter duration. If the project itself is larger, higher goal and longer duration is indispensable, then the initiators should be a detailed plan for the project, every aspect of the risks that may arise as to make preventive measures, and update the progress of the project, in order to measures, and update the progress of the project, in order to improve the attractiveness of the project to get more funding.

Moreover, a large number of visitors will increase the possibility of success of the project funding, as well as the possibility of obtaining a higher funding ratio. The conclusion shows that the warm-up period and funding period was that more people visit, causing more potential investors interest in the project, thereby prompting its support for the project initiator. Based on this conclusion, when initiating projects in the platform, initiators should pay attention to a reasonable set of project-related videos, pictures and other conventional topics initiated the project, the project seeks to better display features, by attracting more attention and visitor to achieve funding goal of the project.

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