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Summer 6-30-2018

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### Recommended Citation

Yuan, Xiang; Wang, Hongwei; and Meng, Yuan, "The Motivation of Capital-giving in Crowdfunding Market: A Self-determination Theory Perspective" (2018). *WHICEB 2018 Proceedings*. 7.

<http://aisel.aisnet.org/whiceb2018/7>

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# The Motivation of Capital-giving in Crowdfunding Market: A

## Self-determination Theory Perspective

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**Abstract:** How to promote crowd-funding results successfully are crucial to crowdfunding platforms and crowdfunding projects. The results of crowd-funding projects are determined by investors' subjective behavior, which is triggered by some certain motivations. However, for different investors, the motivation toward a speculative behavior may be different. Thus, it is very necessary to explore and analyze the composition of the motivations behind each investor's decision. In this paper, we identify different motivation modes mainly influenced by the project description, which will be beneficial to identify the investment intention of each investor. Based on the self-determination theory, we first create the corpus targeting different motives by means of the text mining method. Then, we classify the project description and project investment options. Last, we conduct an econometric model to examine the effect of investor's motives on crowd-funding results based on the real dataset from Indiegogo Platform.

Keywords: crowdfunding, motivation, investment, intention

### 1. RESEARCH QUESTION

In the Internet crowdfunding market, how to increase the success rate of Internet crowdfunding have become a hot topic. Existing research focuses on investment results and influencing factors of crowdfunding projects, lacking analysis of investors motivation difference. These different investment motivations affect investors' investment behavior, as well as the success rate of crowdfunding projects. According to the self-determination theory<sup>[1]</sup>, the physiological needs of the humans are classified into intrinsic motivations and extrinsic motivations. Extrinsic motivations refer to those that are generated because of the external awards or return. Intrinsic motivations include three psychological needs: 1. Autonomy refers to the self-control need of individual humans for behavior. 2. Competence refers to the need of individual humans to express the individual capacity. 3. Relatedness refers to the need that individual humans need to maintain correlation with others.

Based on the self-determination theory, we analyze which investors' investment motivations influence investors' investment behavior and the success rate of crowdfunding projects.

### 2. MAJOR RESEARCH FINDINGS

We establish an econometric model to evaluate the success rate of Internet crowdfunding and the effect of investors' investment motivations. See Formula (1).

$$\text{Rate}_i = \alpha + M_i' \beta + Z_i' \gamma + \varepsilon_i \quad (1)$$

Rate<sub>i</sub> is a dependent variable and represents the completion rate of Internet crowdfunding projects. M<sub>i</sub>' is the investment motivation vector, it represents the text effect of the project initiator on the investment motivations. Project description is the main channel for investors to understand the project, which impose a certain effect on the investors' behavior. Besides, different text contents may impose different investment

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motivation effects on investors, which further affect the investment behavior of the investors. We utilize the TF-IDF value of the key word that represents the theme meaning in the project description as the independent variable of the investment motivations.  $Z'_i$  is the control variable set. Based on the existing researches [2], the following 6 variables are employed as the control variables of the model in this paper: fund-raising period, fund-raising target, description length, initiator, number of Facebook friends, updating times and comment times. Besides,  $\alpha$  is the intercept of the model;  $\beta$  and  $\gamma$  respectively refers to the coefficients of the investment motivation vector and the control variable;  $\varepsilon_i$  represents the random disturbance factor. In general,  $\varepsilon_i = N(0, \delta^2)$ .

We classified all the crowdfunding projects into different categories based on fund-raising contents and analysed each category independently. Table 1 shows the analysis result. It can be seen that each project is affected by different investment motivation effect and displays different tendency.

The fund raiser usually takes advantage of words emphasizing the return or discount to stimulate the investors' investment motivation of obtaining the return. The result shows that the investors of art and food categories concern about the return of the projects, and the investors focusing on the local business and rights prefer the projects with little reward presentation. The relation words which stimulate the investors to enjoy the sense of relation imposes positive correlation effect on most kinds of crowdfunding project, these investors may hope to establish certain relation with the fund raiser or join the community. The

words conveying limit impose a positive effect on the extrinsic motivations of individuals and a negative effect on autonomy of individuals, the result shows that limit words have a positive correlation with the projects of several categories. The fund raiser usually employs words emphasizing gratitude or help for satisfying the competence need, we can find that three categories are related to the words concern for help and gratitude meaning.

### 3. CONCLUSIONS

This paper introduces the motivation theory in the area of Internet crowdfunding, providing a new perspective for analysis on Internet investor motivation and behavior. We have studied the effect of investment motivations of crowdfunding projects investors on the success rate of Internet crowdfunding in this paper. Through a list of key words generated by WordNet lexicon analysis, we use an econometric model to analyze the investment motives and effects of successful fund-raising of crowd-funding projects. In general, due to the diversity of project categories, the effect of the investment motivations on each category of crowdfunding projects is different, and the investors show different tendencies in investment motivations for different project

**Table 1. Analysis results of the effect of the investment motivations on the project fund-raising results**

Category	Help	Gratitude	Reward	Limit	Relation
Art	--	--	0.053*	--	0.085***
Game	--	--	--	--	--
Music	--	--	--	0.067***	0.037*
Film& Video	--	--	--	0.036***	0.032*
Journey	--	0.15*	--	--	0.169*
Podcasts& Shows	--	--	--	0.052*	--
Publishing	--	--	--	0.058*	--
Rights	--	--	-0.020*	--	0.064***
Education	--	--	--	0.055***	0.053***
Environment	--	--	--	0.069**	0.088**
Health	--	0.033*	--	--	0.042**
Culture	--	--	--	--	--
Food	--	--	0.075*	--	--
Local Business	--	--	-0.028*	--	--
Community	0.064*	--	--	--	0.053*
Design& Innovation	--	--	--	--	--

Note: \*p<0.05; \*\*p<0.01; \*\*\*p<0.001;

categories. The research results provide guidance for the fund raiser to prepare a more attractive project description; the crowd-funding platform can provide the project description guidance suitable for the fund raiser according to the different categories of crowd-funding projects, so as to increase the whole fund-raising success rate of the platform.

#### **ACKNOWLEDGEMENT**

This work is partly supported by the Natural Science Foundation of China [71771177, 71601119, 71601082].

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