**Online feedback and crowdfunding finance in China**

Yasir Shahab **(Corresponding author)**

Associate Professor,

School of Accounting, Xijing University

Xi’an, Shaanxi, China

Contact Number: +8613126584641

roulett360@yahoo.com; 20180223@xijing.edu.cn

Yasir Riaz

Senior Lecturer

Department of Business Administration

Namal College

Mianwali, Pakistan

yasir.riaz@namal.edu.pk

Collins G. Ntim

Professor at Centre for Research in Accounting, Accountability and Governance (CRAAG), Department of Accounting, Southampton Business School

University of Southampton

Southampton, United Kingdom

C.G.Ntim@soton.ac.uk

Zhiwei Ye

Business School

University of International Business and Economics (UIBE)

Beijing, China

yzwyzk@163.com

Qingjing Zhang

Lecturer at Centre for Research in Accounting, Accountability and Governance (CRAAG), Department of Accounting, Southampton Business School

University of Southampton

Southampton, United Kingdom

Q.Zhang@soton.ac.uk

Ran Feng

School of Economics and Finance

Xian Jiaotong University

fengran@stu.xjtu.edu.cn

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**Abstract:**

This study examines the impact of online feedback on the extent of alternative startups’ fundraising success or failure through reward-based online crowdfunding platforms. By drawing on regulatory focus theory, we theorize that online feedback relating to products or services is crucial in determining the success of entrepreneurial projects. While employing a unique dataset of 620 projects from renowned reward-based Chinese crowdfunding platform “Demohour” (a major pioneer Chinese crowdfunding platform), the findings show a significant effect of online feedback on the extent of success or failure of reward-based crowdfunding campaigns. Our findings, which are robust to different measures and methodologies imply that nascent entrepreneurs need to pay keen attention to online feedback about their innovative projects if they are to be successful in their fundraising efforts.

**Keywords:** Online feedback, regulatory focus theory, social influence, reward-based crowdfunding dynamics, China.

**JEL Codes** D14, D82, M13, L26

# Introduction

 This paper examines the impact of online feedback on the success or failure of entrepreneurial projects through reward-based crowdfunding (hereafter crowdfunding) platform in China. It draws on Higgins' (1997; 1998) theory of regulatory focus and investigates how online feedback (either positive or negative) influences consumers, investors, and other stakeholders’ decision-making to either further invest or not to invest in entrepreneurial projects on crowdfunding platforms. Consequently, this research determines the success (over-investment) or failure (under-investment) of such entrepreneurial projects using a unique dataset of 620 individual projects on the “Demohour” crowdfunding platform over the period from 2011 to 2016 in China.

The development of the entrepreneurial sector has remained an essential driver of economic growth in the past. However, digitalization has transformed the scope of challenges faced by entrepreneurs, as well as the behavior of investors (Alexiou et al., 2018; Manahov et al., 2018). It has significantly changed the ways of funding startups and alternative sources of finance available to the entrepreneurs. In particular, crowdfunding platforms depict novel modes of entrepreneurial financing that emerged with the advent of the digital economy (Niemand et al., 2018; Shahab et al., 2019; Steigenberger, 2017). Crowdfunding has emanated as a primary source of funding for startups, especially in China. For instance, Chinese crowdfunding sites raised RMB 11.424 billion in 2015, and there were a large number of platforms operating within China by September 2016. However, what motivates individuals to fund such novel ideas and make them successful is a growing debate.

Theoretically, Higgins (1997; 1998) elucidated regulatory focus as a motivational principle. He argued that an individual’s self-regulation focuses on (a) promotion (accomplishments or aspirations) and (b) prevention (safety and responsibilities). This study argues that the regulatory focus of individuals will change in relevance to the nature of feedback about a project’s products or services. It ultimately affects the total level of funds invested in such entrepreneurial projects. In reward-based crowdfunding, there will be two possible outcomes: (a) a positive feedback will inspire the consumers and investors, amongst others, to invest in the project, which may lead to regulatory focus with promotion; and (b) a negative feedback, which may discourage individuals to invest in the novel venture that can result in regulatory focus with prevention. In other words, individuals’ self-regulatory focus driven by online feedback may or may not result in successful alternative entrepreneurial fundraising for innovative projects on crowdfunding platforms.

The debate relating to how people influence others and get influenced by others’ experiences has been vibrant for many years across multidisciplinary fields. However, the recent evolution of online information has enabled easy access to reviews by consumers, investors, entrepreneurs, and other stakeholders to all parties and made everyone comparatively well-informed. The usual feedback effect from investors to management is a well-established phenomenon in financial economics (e.g., see Bai et al., 2016; Bond et al., 2012; Dow et al., 2017). Few studies in finance have explored the direct impact of such reviews (online feedback) on investment decisions and market conditions (Avery et al., 2015; Tirunillai and Tellis, 2012). Moreover, although Wang et al. (2017) emphasized the importance of online feedback in peer-to-peer e-commerce trading platforms; yet, the role of online feedback in reward-based crowdfunding remains an unaddressed issue within the entrepreneurship literature.

Here, an important research question arises, that is: *Why online feedback is important in reward-based crowdfunding platforms?* In e-commerce platforms, the buyers search the specific products or items they are interested in buying at a good price. On the other hand, in reward-based crowdfunding, backers are interested in discovering new projects on a virtual platform with the aim of funding such unique projects. The level of uncertainty is higher when one invests a certain amount of money in projects of an unknown person/entity. Therefore, the online feedback will be of more importance for the backers, who are interested in funding such projects. We argue that online feedback can affect reward-based crowdfunding because of three distinct reasons. First, like managers, entrepreneurs are expected to hold superior information regarding their projects in comparison with outsiders (crowd-funders). On the contrary, entrepreneurs may not have complete details and outsiders may have critical information that entrepreneurs may not have. Second, positive or negative feedback by consumers during the project campaign can, therefore, attract more or less investments from potential backers (also possibly from customers–turned backers), as depicted by Higgins’ theory on self-regulatory focus (Higgins, 1997; 1998). Consequently, this can increase or decrease the sales volume of the offered products or services and thus, affecting the extent of success or failure of projects. Third, constructive feedback can help entrepreneurs fine-tune their overall projects, ease fundraising campaign, and provide a guide for their future planning and decision-making. Thus, getting feedback from stakeholders can be beneficial for both entrepreneurs and crowd-funders, and hence, have a direct implication for the success or failure of a crowdfunding project.

Consequently, this study contributes to the literature in the following unique ways. Firstly, this is the first study to examine the extent to which online feedback affects the success or failure of crowdfunding campaigns. Past studies have focused mainly on factors that impact: (i) pre-launch; and (ii) investment-processing stages of online crowdfunding projects. By contrast, the feedback-stage remained neglected with virtually no existing evidence (e.g., Bai et al., 2016; Cecere et al., 2017; Colombo et al., 2015; Gamble et al., 2017; Hobbs et al., 2016; Mollick, 2014; Xu et al., 2016; Zheng et al., 2014). Colombo et al. (2015) emphasized the importance of feedback in crowdfunding campaigns. In particular, they have stressed the importance of further probing the role of “constructive feedback” and electronic word of mouth in the context of crowdfunding projects. Secondly, this study proposes and tests hypotheses by empirically analyzing a comprehensive dataset of 620 crowdfunding projects (more than any previous studies in China) from a new large crowdfunding platform (i.e., “Demohour”). “Demohour” is one of the primary and first reward-based crowdfunding platforms introduced in China in the year 2011, and within the first two years, it raised an estimated amount of 6.5 million RMB (Mundial, 2013; Shahab et al., 2019). Thirdly, the significant concentration of studies has been on the American and Western crowdfunding markets, and limited studies have explored the rapid growth of the crowdfunding market in Asia. This study examines an emerging market of China, focusing on the key determinant of the extent of success or failure of reward-based crowdfunding campaigns.

Finally, the study has employed rigorous statistical techniques to ensure the robustness of the results and compared across the effect of the three (pre-launch, investment processing, and post-investment, i.e., feedback) phases of the crowdfunding process. This kind of robust statistical analyses is rare within the crowdfunding literature. This paper uses regression analysis to examine the role of online feedback on the extent of success or failure of crowdfunding campaigns. The estimates show a significant effect of feedback on the extent of success or failure of crowdfunding campaigns. Both collective measurement of feedback, as well as the individual measurements, namely, innovation, design, and practicality of the project, lead to the same conclusion. The study reveals that along with online feedback, project quality, social networking size (SNS), project financing, and operations mechanism are all critical factors determining the extent of success or failure of crowdfunding projects. Davidson-Mackinnon J-test and Cox-Pesaran-Deaton tests also support the importance of feedback effect in defining the success or failure of crowdfunding campaigns. The empirical findings are robust and consistent. These findings will be valuable for entrepreneurs, investors, crowdfunding managers, academicians, researchers, and policymakers, alike.

The rest of the paper is structured as follows. Section 2 provides a background of crowdfunding development in China. Section 3 reviews the related literature and proposes the hypothesis. Section 4 describes the data collection process and research methodology. Section 5 discusses the findings, while section 6 provides a discussion of the findings, and section 7 concludes the paper.

# **Background of Crowdfunding in China**

Crowdfunding is ‘a mechanism, which provides a novel opportunity for individual founders to raise funds for a number of new projects using the internet, without involving regular financial intermediaries’ (e.g., Ahlers et al., 2015; Belleflamme et al., 2014; Bruton et al., 2015; Mollick, 2014). Such projects differ in the goals and nature of financing struggles, from small artistic projects to projects pursuing huge investments, as a substitute for traditional venture capital investment (Belleflamme et al. 2014). The fundamental models of crowdfunding include ‘donation-based, equity-based, reward-based, and lending-based crowdfunding.’ In donation-based crowdfunding, the backers are given a donor agreement without any tangible or monetary rewards. Equity-based crowdfunding gives a share in equity or profits/revenues of the new venture. In reward-based crowdfunding, intangible, or non-monetary tangible rewards (reputation, identity, product, etc.) are provided to the investors. Finally, in lending-based crowdfunding, there are no financial intermediaries, and a credit contract is presented to the supporters (Agrawal et al., 2015; Ahlers et al., 2015; Belleflamme et al., 2014; Mollick, 2014). However, despite its increasing importance, little is known about the dynamics of reward-based crowdfunding and its diverse mechanisms, especially in China.

The Chinese crowdfunding market is the largest in the world (Bi et al., 2017; Shahab et al., 2019; Zheng et al., 2014). The first crowdfunding platform was launched in July 2011 in China, and by September 2016, the count reached 415 in just five years. Out of these 415 platforms, 207 are reward-based crowdfunding platforms, 127 are non-public equity financing, 13 are charity crowdfunding, and 68 are mixed-type crowdfunding. Compared to RMB 2.82 billion raised in 2014, the Chinese crowdfunding platform raised RMB 11.424 billion in 2015. It shows a sharp increase of about 305.1 percent in just one year. In only nine months from January 2016 to September 2016, Chinese crowdfunding platforms raised RMB 11.801 billion, which exceeds the amount of the collected funds for the whole year of 2015 (i.e., RMB 11.424 billion). Chinese crowdfunding platforms are increasing in their size and are listing themselves with the Industrial and Commercial Administration in China. However, internet finance is a highly unregulated market in China. The regulations are essential to keep the check and balance of the crowdfunding mechanism.

The crowdfunding industry has not only seen success, but there are instances, where crowdfunding platforms have been declared bankrupt as well. The number of failures in crowdfunding platforms is also increasing with time. In 2015, only 40 crowdfunding platforms went bankrupt compared to 134 in just three quarters of 2016. Chinese regulatory agencies are drafting strict rules and regulations for internet finance. Concerned rating agencies, include the China Banking Regulatory Commission (CBRC), People’s Bank of China (PBOC), the China Internet Information Technology Office (CIITO) and the China Insurance Regulatory Commission (CIRC). On 28 July 2015, these regulators took the first step when they released Guiding Opinions (GOs) for the promotion of entrepreneurial internet finance. Regulators have set out primary and general rules and measures in these GOs. The primary focus of the GOs is to favor innovations in products and services related to the internet finance platform in order to stimulate market vitality. It also offers special tax rebates and subsidies to the industry players if certain conditions are met in the embryonic stages. Therefore, such unique contextual setting and growth in Chinese crowdfunding platforms make this empirical investigation timely and worthy of potential contributions towards the entrepreneurship finance literature.

# **Literature Review and Hypothesis**

Theoretically, the regulatory focus theory utilized regulatory focus as the basic motivational principle, which negated the hedonic law (Fischer et al., 2018; Higgins, 1997; 1998). Higgins (1997; 1998) emphasized that the regulatory focus is segregated into self-regulation with motivation on accomplishments or promotion and safety or prevention. Individuals’ decisions in their lives are stimulated by their desires to achieve high standards or to keep themselves safe from possible negativities. Accordingly, they try to regulate those aspects of life, which are associated with some accomplishments or aspirations and prevent the ones linked with negativities or safety concerns. Applying the regulatory focus mechanism in reward-based crowdfunding is likely to yield two possible outcomes. First, individuals’ regulatory focus is likely to change in light of positive feedback about the crowdfunding projects as they will strive to further have accomplishments or aspirations (regulatory focus with promotion perspective) by making investment decisions in favor of the unique projects. Second, negative feedback may discourage individuals from funding the novel projects as individuals may attempt to avoid or prevent those projects, which are associated with high risks or uncertainties (regulatory focus with prevention perspective). Accordingly, individuals’ self-regulatory focus stimulated by online feedback may or may not result in successful entrepreneurial fundraising for unique projects on crowdfunding platforms. This paper attempts to integrate this regulatory focus principle with the feedback effect in the context of reward-based crowdfunding in China.

In general, prior studies have examined different mechanisms pertaining to the extent of success or failure of reward-based crowdfunding in both developed and developing markets. For instance, Mollick (2014) reported that project owners, who have a high number of friends on social networking sites (e.g., on Facebook and Twitter) find it easy to attract investments for their projects. He further indicated that the “quality of the project” seems to be associated with the success of the crowdfunding initiative because high-quality projects are more likely to get funding. Colombo et al. (2015) emphasized that supporters grow within a crowdfunding platform by facilitating other community members’ projects by emphasizing internal social capital. They studied 669 projects from Kickstarter and reported that such early contributions are linked to the prospects of a project, accomplishing its financing goals, and mediate the impact of internal social capital on the accomplishment of the project. Under the lens of cognitive evaluation theory, entrepreneurial narrative language (which boosts intrinsic motivation) has a stronger impact in comparison to the language, which weakens intrinsic motivation (language related to extrinsic motivation). It highlights that the importance of lenders/backers (people who invest in the projects) in the success or failure of a project is associated with the linguistic cues. Cordova et al. (2015) revealed that the probability of a project’s success and overfunding of crowdfunding projects is affected by three significant factors, which are “*investment demanded by crowd-funder, project’s duration and frequency of funds’ contribution.*”

Moreover, Gamble et al. (2017), while employing qualitative techniques, revealed that fans’ demographic details (e.g., age group and category) determine the economic advantages of reward-based crowdfunding for independent artists due to unrelenting hesitation from younger spectators. They argued that the emphasis of new models is shifting towards a “user-centric financial model.” Courtney et al. (2017) elaborated that media usage, commendation by backers/investors, and experience of crowdfunding can alleviate information asymmetry apprehensions about the quality of the project, initiator’s integrity, and ultimately can lead to project success under the framework of information economics. As compared to equity-based crowdfunding, high-quality projects prefer reward-based crowdfunding when asymmetric information is important (Miglo and Miglo 2018). Mollick and Nanda (2015) advocated that crowdfunding can be imperative in improving professional judgments, especially in circumstances where the masses are end consumers (by giving opportunities to have numerous evaluations and feedback).

In particular, recent related studies have also recognized the importance of online reviews and feedback and investigated its economic impacts in diverse manners. For example, Baek et al. (2012) explored the factors that make the customer reviews helpful for consumers. They showed the importance of both the central cues: (i) review content and peripheral reviews; and (ii) the credibility of the reviewer and review rating, to affect the helpfulness of reviews. Cui et al. (2012) showed that the volume of reviews is important for experience product while the volume of page views and valance of reviews are significant for search projects. Further, negative reviews have a more pronounced effect as compared to positive reviews. Li et al. (2013) proposed that online reviews are helpful as a formative construct, and consumers take into account the source and content of reviews before making decisions. Consumers give more importance to customer reviews rather than expert reviews.

Feedback effect on the different phenomenon of financing is also evident from the interdisciplinary literature on economics and finance (e.g., Bai et al., 2016; Dow et al., 2017; Wang et al., 2017). Particularly, Ackert et al. (2016) found that in response to the firm’s activities and available information, dominant investors post their feedback about the targeted enterprises, which serve as an efficient mechanism for the market’s functioning. Sprenger et al. (2014) used computational linguistics and found connection amid information and feedback shared (on Twitter) about stocks and the stocks’ trading volume. They argued that ‘stock microblogs’ are comprised of essential information that is not previously integrated into the prices of stocks. Sabherwal et al. (2011) studied the impact of information given on “internet stock message boards” on the trading volume by investigating stocks with massively debated stocks with no significant news. They found that such stocks belong to small firms (with weak financials) and are easily influenced by online postings. Park et al. (2014) proposed two models (information seeking and information sharing) and provided interesting results for the user’s participation behavior in online investment platforms in South Korea.

However, there is limited research available on crowdfunding mechanics from the perspective of Chinese crowdfunding platforms. Bi et al. (2017) unveiled the positive influence of certain types of information (signals of project quality, electronic word of mouth) on the investment decisions of backers/investors by employing data from Zhongchou (a Chinese crowdfunding website). In a separate study using a dataset of 170 projects from a popular reward-based crowdfunding platform in China (i.e., “Demohour”), Xu et al. (2016) found that features, such as “quality of the product, project innovativeness, sponsor involvement, delivery aptness, and project owner’s vigor” are satisfactory settings for sponsor contentment in crowdfunding. Topical features in pertinence to success/failure of crowdfunding campaigns on Chinese crowdfunding platforms are discussed in Yuan et al. (2016). Zheng et al. (2014) conducted a cross-cultural study across China (270 projects from “Demohour”) and the U.S (515 projects from “Kickstarter”) and concluded that social network ties of entrepreneurs, their responsibilities to sponsor others and the mutual meaning between the projects’ sponsors and initiators have a significant impact on the performance of crowdfunding projects in both countries. Zheng et al. (2017) found that specifications and timeliness delivery of rewards to sponsors significantly affect the success of crowdfunding campaign implementation, while entrepreneur activeness, community benefit, and project social responsibility negatively moderate the relationship. In another study, Zeng et al. (2017) have also examined the sponsor’s satisfaction in relevance to utilitarian (reward delivery timeliness and specifications) and hedonic values (sponsor citizenship behavior) in reward-based crowdfunding in China. Zhao et al. (2017) found that perceived risk, regulatory focus, and amount pledged are vital determinants of a project's success from the intentions of investors/backers. In addition, sponsor’s co-creation and psychological ownership (Zeng et al., 2018) and guanxi (relationship building) and trust (Zhao and Vining, 2019) have also been examined in relevance to reward-based crowdfunding in China.

 However, the review of the preceding literature depicts that crowdfunding has gained researchers’ attention in recent years. Still, this field is in its embryonic stage, which requires a multidisciplinary approach (McKenny et al., 2017; Short et al., 2017). Given the unique contextual settings and regulations of Chinese reward-based crowdfunding (as discussed in the background section), this study extends the existing scholarship by incorporating an important, yet unexplored aspect (Colombo et al. 2015) of “online feedback” in the underlying mechanism of crowdfunding by drawing on regulatory focus theory (Fischer et al., 2018; Higgins, 1997; 1998). The study theorizes that the regulatory focus of individuals (promotion or prevention) will alter depending on the nature of the feedback about a project’s product or services from the users or investors of the project, eventually affecting the total level of investment in these novel projects. Consequently, two possible scenarios may arise. First, the investors and consumers will be more willing to invest in the project due to positive feedback (which will lead to regulatory focus with promotion). Second, the individuals will be demotivated/discouraged to invest in the unique projects due to negative feedback (regulatory focus with prevention). In other words, online feedback can stimulate individuals’ self-regulatory focus and affect the success or failure of innovative projects by determining the level of investment in the project on crowdfunding platforms. In the context of Chinese crowdfunding platforms, where the unique projects often fail and frequently face difficulties in fundraising and getting approval from the backers, the positive or negative feedback can act as a stimulating factor in increasing or decreasing the level of funds invested, and thus, leading to the success or failure of a reward-based crowdfunding. Accordingly, the main and only hypothesis of this study is as follow:

*Hypothesis 1: Online feedback (positive or negative) will determine the extent of success or failure of reward-based crowdfunding platform project campaigns in China.*

# Data and Methodology

This study has used a cross-sectional data of 620 crowdfunding projects from the Chinese crowdfunding platform “Demohour.” The data is extracted from the Demohour’s website for projects registered from its inception in 2011 to June 2016. The total funds against these projects were over RMB 45 million (approximately USD 7.2 million). This figure was later confirmed vide the crowdfunding statistics available on the “Crowd-surfer database” (Crowd-surfer, 2016). Out of the 620 projects analyzed, 378 projects (representing 61%) managed to achieve their desired level of goal and are classified as successful projects. According to the “Crowd-surfer database,” the percentage of successful projects on Demohour was 60% in 2016, which perfectly matches that of this study (Crowd-surfer, 2016).

This study has used “Demohour” as a primary data source because of two reasons[[1]](#footnote-1). Firstly, it provides an “online rating system” for customers to provide feedback about the novel projects’ products or services. This “online rating system” provides feedback in three essential strands, namely innovation, design, and practicability of the project. Respondents provide feedback on an ordinal scale of zero to five stars on each of the three components. This feedback system of “Demohour” provides a novel dataset for this study to test and incorporate the post-investment phase into the model and analyze the impact of feedback on the success or failure of crowdfunding projects. Secondly, “Demohour” is a pioneer and biggest crowdfunding platform introduced in China in the year 2011, and within the first two years, it raised an estimated amount of 6.5 million RMB (Mundial, 2013).

To study the impact of online feedback on the success or failure of the reward-based crowdfunding campaign (our main hypothesis), we classify the determinants of success or failure of the crowdfunding campaign into three basic groups based on the progress status of the campaign from investor’s perspective, namely (i) pre-launch phase, (ii) investment-processing phase, and (iii) post-investment phase. As used in previous studies, this study classifies owners’ social networking size (SNS) and quality of the project into the pre-launch phase and projects’ finances and the operations into the investment-processing phase. The study classifies feedback into the post-investment phase. So far, the majority of the factors from the first two stages remained the focus of interests for researchers, and the role of feedback or project evaluation remains neglected (e.g., see Hobbs et al., 2016; Mollick, 2014; Xu et al., 2016; Zheng et al., 2014).

We measure social networking size (SNS) with the natural log of the number of fans on Weibo (*Logfans*). “Weibo” is a social networking platform equivalent to Twitter in China. To measure the quality of a project, we use three dummy variables for the project if it is shared on “Weibo/Wechat” (*Dumwechat*), video on Youku (*Dumyouku*), and pictures on the “Demohour” (*Dumprojpics*). “Wechat” is the Whatsapp equivalent, and “Youku” is the Youtube equivalent in China. We use: (i) the ratio of goal amount of the project to the number of backers (*GPB*), (ii) the ratio of the actual amount pledged to the number of backers (*PPB*), and (iii) the log number of backers (*Logbackers*) as measures for a project’s financing side. Finally, a project’s operations are measured using the log number of updates on the project page (*Logupdates*), category of the sector of the project on “Demohour” (*Dumcat*), the time duration for which project is open for funding (*Duration*), and the log number of comments (*Logcomments*). The details of the variables are provided in Table 1.

For the post-investment phase, the study transforms and codifies the ordinal feedback from the “online rating system” responses into two classes of dummy variables: (i) one class accounts for an integrated feedback response; and (ii) the other class includes an individual response from each strand. In the first-class, six dummy variables are defined to include integrated feedback effect into the model namely intd0, intd1, intd2, intd3, intd4, and intd5 defined as binary variables equal to 1 if anyone of innovation, design or practicality has a zero star, one star, two stars, three stars, four stars or five stars, respectively, otherwise the value is zero for the respective dummy variable. In the second class, the study defines six dummy variables for each strand individually. As an example of a design, this paper defines the following variables: dn0, dn1, dn2, dn3, dn4, dn5 defined as binary variables equal to 1 if a product gets zero star, one star, two stars, three stars, four stars or five stars on design, respectively, otherwise the value is zero for the respective dummy variable. We use the dummy variables for each strand separately in a series of sensitivity tests.

Previously, studies have either used pre-launching phase variables, investment-processing phase variables or variables from both these phases and the following model remains prominent in the literature (Zhao et al., 2017; Zheng et al., 2014):

 $logsratio=α\_{1}+β\_{1}X\_{1}+β\_{2}X\_{2}+ε\_{1} ……… (1)$

Where logsratio is calculated as the natural log of success ratio (Belleflamme et al., 2014; Zheng et al., 2016). This ratio is measured as the ratio between funds pledged and goal money of the project. The natural log of this success ratio is utilized in the empirical analysis. Log of the variables is preferred in this study for the ease of interpretation of parameters as elasticities and to encounter the normality issue of residuals. X1 is a vector containing variables from the pre-launch phase only. It includes variables relating to social networking sites (SNS) and the quality of the project. X2 is a vector of variables from the investment-processing phase. It includes the project’s financing and the project’s operations side variables.

To include feedback, this study employs the following regression model:

$$logsratio=γ\_{0}+γ\_{1}X\_{1}+γ\_{2}X\_{2}+γ\_{3}X\_{3}+ε\_{1} ……… (2)$$

Where *logsratio*, X1, and X2 have the same definitions as in equation (1), while X3 is a vector containing variables from a post-investment phase. The post-investment phase includes variables for the feedback on innovation, design, and practicability. For the main analysis, this study uses integrated feedback dummy variables (i.e., intd1 through intd5 in X3). However, this paper also tested for the individual feedback effect on each strand of the feedback in the sensitivity tests section (i.e., it introduces i1 through i5, dn1 through dn5, and p1 through p5 in the vector X3 in separate models, respectively).

INSERT TABLE 1 ABOUT HERE

# Results

## Descriptive Statistics

The detailed descriptive statistics are displayed in Table 2. The mean duration of a project is about 153 days or five months, with projects completed as early as in 1 month and as late as in 16 months. The average rating of the three components of the post-investment phase (i.e., innovation, design, and practicality) are 1.85, 1.88, and 1.85, respectively. The minimum value of rating is zero, and highest is 5 in each of the three evaluation components. It represents a lower average rating of the products by consumers. The average value of sharing a video on “Youku” is 0.35, implying that, on average, 35 out of every 100 projects have shared a video about the details of the project on “Youku”. Comparably, the average sharing of projects on “WeChat” moments/groups (i.e., 0.48) is considerably higher than the videos shared on “Youku”. It shows that “WeChat” is used more frequently as a social networking hub by Chinese entrepreneurs. Contrarily, sharing pictures about a project has an average of 0.65. It shows that sharing pictures of projects is a more common phenomenon on the “Demohour”. On average, there are 28 fans on “Weibo” of each project owner, and the range goes beyond 144 fans on the social networking site. The project owners have made 44 updates and 224 comments and around 175 backers on average. The funding goal of the project has a 95th percentile value of 100,000 RMB, with a mean value of 28,452 RMB. It represents the tendency of crowdfunding projects’ owners to set a higher goal amounts, and they have mostly achieved the target level. It is evident by the average pledged amount (i.e., 73,255 RMB) that is much more than the average project goal amount.

INSERT TABLE 2 ABOUT HERE

The correlation coefficients of the variables are given in Table 3. The first row shows the correlation between the dependent and all the independent variables used in the analysis. The *Logsratio* has the highest correlation of 0.78, with both *Logbackers* and *Logcomments*. The lowest level of correlation is demonstrated between the *Duration* and *Dumprojpics* with the dependent variable (i.e., -0.01 and -0.03) respectively. The three post-investment phase variables, Innovation, Design, and Practical, show a correlation of 0.42 with the dependent variable. However, they have the highest level of correlation among themselves as compared to the correlation between any other variables. We study the effect of these three feedback variables on the success ratio in the next section using regression analysis.

INSERT TABLE 3 ABOUT HERE

## Regression Estimations

Table 4 presents the estimates for the effect of the variables from the three stages of the investment process. Model 1 shows estimates for the pre-launching phase of the crowdfunding projects. Out of four tested pre-launching phase variables, we only find two variables significant at the 1% level. The *logfans* and *dumwechat* are significant at a 1% level with magnitudes of 0.326 and 1.63, respectively. It shows that a 1 % increase in the number of fans leads to an increase in the success ratio of the project by 0.326 %. The entrepreneurs that have a “WeChat” account have a 1.63% higher success ratio as compared to the entrepreneurs not having an account on the “WeChat”. However, video posting on “Youku” and project pictures are found insignificant factors towards the higher success ratio. Overall the model fit F-statistic is 54.28, at 1% level of significance, with an R-squared of 0.302. Model 2 tests for the effect of the investment-processing phase on the success ratio of project funding. The study found logupdates, logbackers, PPB, and GPB significant at a 1% level of significance. Overall the F-stat is also significant at the 1% level with a coefficient of 259.9. The adjusted R-squared is also higher for this model (i.e., 0.819). The second investment stage appears to explain greater variation in the log success ratio of the project. The coefficient on the log number of updates by the entrepreneur is 0.334, which shows that a 1 % increase in the number of updates by the initiator leads to 0.334% higher success ratio of the project. Similarly, a 1% increase in the number of backers and pledged amount to backer’s ratio leads to a 0.753% and 0.107% greater success ratio while a 1% higher goal amount to the number of backer’s ratio leads to a decrease in success ratio by 0.008%. The estimates are significant at 1% level. We find the duration of funds collection as an insignificant factor, while two dummies for the category of the project are significant at 1% and 10% level, respectively. Model 3 presents estimates for the post-investment phase of the crowdfunding process. We find all the five dummy variables significant at a 1% level with coefficients of 2.24, 1.94, 0.91, 1.62, and 1.14, respectively. It shows that during the post-investment phase if a project receives 1-star on its innovation, design or practicality, the success ratio increases by 2.24%, 2-star increases the success ratio by 1.94%, 3-star improves the success ratio by 0.91%, 4-star improves its success ratio by 1.62% and if it receives 5-star improves its success ratio by 1.14%. These estimated effects are significant at a 1% level of significance with an F-statistic of 63.39 and an adjusted R-squared of 0.288. It shows that the post-investment phase is a significant constituent part of fundraising but was ignored by the researchers. This study adds to the literature by including the third investment phase, the post-investment phase, into the equation for its effect on the success ratio of the crowdfunding project.

We estimate three distinct models presented in Model 4, 5, and 6 of Table 4 to test for the significance of the third investment stage. We also control for the other two investment stages. Model 4 presents the effect of post-investment phase on the success ratio while controlling for the pre-launching phase only; Model 5 presents the effect of post-investment phase while controlling for the investment processing phase only and Model 6 controls for both the pre and processing phases while estimating the effect of the post-investment stage. In Model 4, the study controls for the pre-launching stage only; all the five variables of the post-investment phase remain significant at a level of 1 %. Intd1 has a coefficient of 1.57, Intd2 has 1.50, Intd3 has 0.60, intd4 has 0.92 and intd5 has 0.793. The adjusted R-squared of the model is 0.371, with an F-statistic of 39.98 significant at 1%. This model shows that if a project receives 1-star on innovation, design or practicality, it increases the ratio of success by 1.57%, 2-star increases the success ratio by 1.50%, 3-star raises the success ratio by 0.60%, 4-star upsurges the success ratio by 0.92%, and 5-star escalates the success ratio by 0.79%, all estimates are significant at 1% level. Model 5 controls for the pre-launching phase and explores the effect of the post-investment stage on the success ratio of the project. Intd1 is significant at a 5% level, with a coefficient of 0.313. It means that if a project receives 1-star feedback, it increases the success ratio by 0.313%. Intd2 has a coefficient of 0.213 at a 10% level of significance. 2-star feedback on a post-investment phase leads to a positive increase of 0.213% in the success ratio. Intd3 and Intd5 both turn to be insignificant, while Intd4 is significant at the 10% level. It shows that 4-star feedback on the project leads to a positive rise in the success ratio of the project by 0.159%. The F-stat of the model is also significant at a 1% level with a coefficient of 188.5 and an adjusted R-squared of 0.821. In model 6, we estimate the effect of the post-investment phase while controlling for both the pre-launching and investment-processing phase. In this case, intd1 and int4 both remain significant at a 1% level with a coefficient of 0.318 and 0.254, respectively. intd2 is significant at 10% with a coefficient of 0.221. However, intd3 and intd5 both remain insignificant in model 6. Table 4 also reports the Akaike information criterion (AIC) and Schwarz information criterion (BIC) for model assessment. If this study compares the three stages (Model 1 to 3) based on these values, the third investment phase, the post-investment phase, has the lowest values on AIC that shows that Model 3 is preferred over Model 1 and Model 2. The investment processing phase shows the lowest value on BIC. On the other hand, when the study compares all the six models, the best model based on the two criterions is a model that contains post-investment stage variables (i.e., Model 5). The variance inflation factors (VIF) are also low for all the models. It signifies that our models do not appear to suffer from any serious multicollinearities.

INSERT TABLE 4 ABOUT HERE

## Sensitivity Analyses

For sensitivity analysis, this paper re-estimates models 4, 5, and 6 in Table 2 for three alternate measures (i.e., innovation, design, and practicality) of the post-investment stage. Instead of integrating the three measures, the study uses them individually to test for the effect of the third stage in the funding process. Similar to the previous measure, these measures also contain five dummy variables i1 to i5, dn1 to dn5 and p1 to p5 each representing 1 star, 2 star, 3 star, 4 star, and 5 star, respectively, by the funders. Table 5 presents the estimated outputs for the three measures. In Model 1, 2, and 3 of Table 3, we only control for the pre-launching stage and estimate the effect of the post-investment stage for the three discrete measures. All the five variables for the three measures are significant in Model 1 to Model 3. F-statistic for the models is also significant. In Models 4, 5, and 6, the investment processing phase is controlled, while we estimate the effect of innovation design and practicality. The effect of innovation is significant for 1-, 2-, 4-, and 5-star at 10%, 5%, 5%, and 10% significance levels, respectively, and insignificant for the 3-star dummy. In case of design, 4-star dummy variable is significant at 1% level while one and 2-star dummies are significant at 5% level and 3 and 5-star at the 10% level. For practicality, 4-star dummy variable is significant at 1% while 1-star and 2-star dummies at 5% level; however, 3-star and 5-star are insignificant. Then, the paper tests for the effect of the post-investment stage while controlling for the other two stages. In Model (7), dummy variables i1, i2, and i3 are significant at 5% and i4 and i5 at a 1% level. It shows an overall significant effect of the innovation component of the post-investment phase. In Model 8, the design of the project is also found significant. dn1, dn2, and dn4 are significant at a 1% significance level, whereas dn3 and dn5 are significant at a 5% level. Similarly, in Model 9, the study finds p1, p2, and p4 significant at 1% level, p5 at a 5% level, while p3 at a 10% level of significance. Overall, the sensitivity analysis shows a significant effect of the post-investment phase on the success of the crowdfunding campaigns.

INSERT TABLE 5 ABOUT HERE

To further test for the significance of the third phase of investment, the study uses both nested and non-nested model tests to compare across a number of specifications. Davidson-Mackinnon J test and Cox-Pesaran test are used to compare the three stages of crowdfunding. Panel A of Table 6 shows the results of the tests. Where M1 is for the model with first stage variables, M2 with the variables from stage 2 and M3 with funding stage 3 variables. In comparison 1, M1 is compared with M2; in comparison 2, M1 is compared to M3; and in comparison 3, M2 is compared with M3 using the two tests, Davidson- Mackinnon J-Test and Cox-Pesaran- Deaton test. Both the tests are significant at 1% level of significance except in a single case of the first comparison where Mackinnon J test is significant at 10% and Cox-Pesaran test 5%. The higher level of significance shows that all the three stages of funding are essential to explain the success ratio of the crowdfunding campaign and ignoring any stage in the model leads to a misspecification. It favors the full model encompassing all the three stages together. These results support the importance of the third investment phase along with other two stages in crowdfunding success equation.

This study also uses a stepwise regression process to test and compare the significance of different investment stages of crowdfunding, particularly the post-investment phase. It tests the nested model specifications using a series of tests. The results are shown in Panel B of Table 6. Definitions are the same as in Panel A. M1, M2, and M3 in Panel B represent models relating to pre-launching, investment-processing, and post-investment phases, respectively. Specification 1, 2, 3, and 4 are similar except the variables in M3 for the post-investment stage varies. Similar to Table 5, the study uses different measures for the post-investment phase. In specification 1, M3 represents the integrated measure of post-investment phase, in specification 2, it includes measures on innovation only, in specification 3, it includes measures on design only, and in specification 4, it includes the measure of practicality. In each specification, first regression is estimated for pre-launching phase and tested for their joint significance, second regression is estimated for both pre-launching, and investment-processing stages and tests are conducted for the joint significance of the second phase only, and third regression model is extended to include the third crowdfunding stage and tests are conducted for the joint significance of third phase (i.e., post-investment phase) only. First, Wald F-statistic is a test of the joint significance of the variables relating to the phase specified by M1, M2, or M3. The Wald F-statistic is significant at 1% for all the specifications and the models. Particularly, it authenticates the joint significance of the post-investment phase. Subsequently, a likelihood ratio test shows similar results to the Wald test. The third test in this group is to compare models based on the Akaike Information Criterion. It is observable that the lowest value of the AIC belongs to the M3 in each specification. It shows that an optimal specification for modeling the success of the crowdfunding project must include all the three stages of the crowdfunding process.

INSERT TABLE 6 ABOUT HERE

# Discussion

Overall, this study uses a holistic approach to empirically analyze the determinants of success/failure of crowdfunding campaigns in a three-phase model: a) pre-launch phase; b) investment-processing phase; and c) post-investment phase. The main findings of this study are in line with the theoretical arguments of regulatory focus theory (Higgins, 1997; 1998) that online feedback is crucial in the success or failure of entrepreneurial ventures. Empirically, this study bridges the existing gap in crowdfunding literature with a focus on “online feedback” in relevance to the arguments provided by previous scholars (Colombo et al., 2015; Miller et al., 2005). In addition, the empirical findings are in line with the social capital theory that social networking size (SNS) is positively related to the success of the project. In the pre-launch phase, SNS plays a significant role as the social contacts of the instigator become the pool of initial backers, and the social network's ties become stronger. Later, when the post-investment phase occurs, the social contacts (who have converted from followers/fans to the backers of the projects), become involve in the evaluation of the projects and ultimately as predicted by the model, increase the likelihood of project success (as evident from the Model 4 and Model 6, Table 4). This study further strengthens the argument that project quality is an important predictor of the project’s success. If a project is high in quality, then, success is evident and vice-versa.

Concerning the post-investment phase (Model 4, Table 4), the results indicate that the quality of the project (i.e., sharing videos on “Youku” and sharing the project on “WeChat”) has a significant positive relationship with the success of a project. The investment-processing phase is also well explained by the analysis. Specifically, the project’s financing side is a more significant determinant of a project’s success among different phases of the investment. The results obtained for project financing (logbackers, PPB, and GPB) are significant (Model 2, 5, and 6, Table 4). The number of updates on the project website is the only significant factor of a project success from the operations side of the project. If the project owner regularly updates the project website, keep the goal amount of project to a considerable size (not extreme goal amount), then, there is a high chance of securing investment by other investors and vice-versa.

The major contribution of this study is the inclusion of the post-investment phase (i.e., online feedback effect in the empirical analysis of crowdfunding projects). The findings of this study depict a strong positive relationship between online feedback and the success ratio of a project. The evaluation of a project based on innovation, design, and practicality are all positively related to the success of the project (both in regression and sensitivity analysis). The investors not only pay attention to the size of the goal, project quality, social networking and project’s financing, but also, they pay keen attention to the ratings of the project provided by the user of the products or services.

# Conclusion

This study departs from the existing literature by empirically testing the impact of online feedback on the extent of reward-based crowdfunding campaigns’ success or failure. Drawing on the theoretical arguments of Higgins (1997; 1998) and recent empirical arguments of “feedback effect” from the financial economics literature (Avery et al., 2015; Bond et al., 2012; Dow et al., 2017; Tirunillai and Tellis, 2012), this paper examines whether online feedback from stakeholders influences the outcome of reward-based crowdfunding projects. The empirical results indicate that online feedback is an important predictor of crowdfunding project success/failure along with social networking size (SNS), project quality, number of backers, and the number of updates.

The findings of this study have implications for both backers, entrepreneurs, and managers of crowdfunding ventures and platforms. This can be helpful in fostering and developing social connections and appealing for funds for both their own and other members’ projects. First, the study recommends backers to not only rely on their external social capital (e.g., family, friends, followers on “Weibo”, “Wechat”, and acquaintances), but they should also pay attention to online feedback. The online feedback provided by customers can, therefore, significantly help in post-investment decision making. It is, therefore, imperative to build long-lasting relationships with customers, who can become potential investors in future ventures. Further, the originators and entrepreneurs need to develop an “interactive customer evaluation” (i.e., rating system while launching the platform). This system can make it obligatory for backers/investors or customers to evaluate the projects and products/services based on standard criteria (as seen on “Demohour” platform). Such a system is lacking in the majority of reward-based crowdfunding platforms. The inclusion of such mandatory evaluation option can enable all the stakeholders (entrepreneurs, project owners, backers, customers, and customer-turned investors) to use the component of online feedback in order to make better decision making, and consequently, to affect the success/failure of crowdfunding projects.

This research has some limitations, which at the same time, provide opportunities for future investigation. First, future research can use other indicators of quality of the project (e.g., word counts in the introduction, image, or video counts) (see Bi et al., 2017; Kang et al., 2017), in addition to the dummy variables used in the current study. Second, future studies can explore the impact of geographical location and distance in the determination of project success or failure. Previous studies (Agrawal et al., 2015; Giudici et al., 2018; Guenther et al., 2018; Kang et al., 2017; Mollick, 2014) have explored the nexus between the former predictors in relation to the mechanism of crowdfunding success. It will be interesting to explore how the geographical affiliation of the customer-turned investors influences their feedback or response towards the crowdfunding project. Third, as recent studies have examined the antecedents of entrepreneurial intentions in China (e.g., Shahab et al., 2018; Zhang and Cain, 2017) using a sample of university students, future studies can shed new insights by examining the entrepreneurial intentions of the project owners on crowdfunding platforms from different economies. Fourth, limited literature (for example, Zheng et al., 2014) has focused on comparative studies across borders and has incorporated the role of cultural diversity. Future studies can explore this exciting paradigm in relevance to the online feedback effect and shed stimulating insights into the prevailing literature. Finally, as the major literature on reward-based crowdfunding is from American or European markets, similar studies can be undertaken for other emerging economies besides China (e.g., emerging markets in Africa, Asia, South America and the Middle East).

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| **Table 1: Variable definitions** |
|  | **Variables** | **Symbols** | **Measurement** | **Literature** |
| Dependent Variable |  |  |  |  |
| Success or failure of the crowdfunding project | Success Ratio | Logsratio | This ratio is measured as the ratio between funds pledged and goal money of that project. The natural log of this success ratio is utilized in the empirical analysis. | Belleflamme et al. (2014) and Zheng et al. (2016) |
| Independent Variable |  |  |  |  |
| Feedback | Innovation | Innovation  | The respondents rating on a scale of 0 to 5 (i.e., from no to a high level of innovation). We define six dummy variables representing each response of the scale, namely i0, i1, i2, i3, i4, and i5. | Avery et al. (2015) and Chua and Banerjee (2016) |
|  | Design | Design | The respondents rating on a scale of 0 to 5 (i.e., from no to a high level of design). We define six dummy variables representing each response of the scale, namely dn0, dn1, dn2, dn3, dn4, and dn5. |
|  | Practicability | Practical | The respondents rating on a scale of 0 to 5 (i.e., from no to a high level of practicability). We define six dummy variables representing each response of the scale, namely p0, p1, p2, p3, p4, and p5. |
|  | Integrated | Intd | It is an integrated score of the three feedback measures. We define six dummy variables, namely intd0, intd1, intd2, intd3, intd4, and intd5. A dummy variable (intdx) is equal to 1 if any one of the three of its related variables (ix, dnx, and px ) is equal to 1; otherwise it is equal to 0. Where, x=0,1,2,…,5.  |
| Control Variables |  |  |  |  |
| Social Networking Size | No of fans on Weibo | Logfans | Natural logarithm of the number of followers/fans. | Zheng et al.(2014) |
| Quality of Project | Video on Youku | Dumyouku | A dummy variable that takes a value of “1” if the project has shared a video on Youku and “0” otherwise | Bi et al. (2017), Kang et al. (2017), Shahab et al. (2019) and Zhao and Vinig (2017) |
| Shared picture(s) | Dumprojpics | A dummy variable that takes the value of “1” if pictures are shared online and “0” otherwise |
| Weibo/WeChat account | Dumwechat | A dummy variable that takes a value of “1” if the project is shared on Weibo/Wechat and otherwise “0”. |
| Project’s Financing Side | Project Goal | GPB | The desired amount of funding for a project by the founder measured in Chinese yuan (RMB) divided by the number of backers. | Kang et al. (2017), Mollick (2014) and Zheng et al.(2017) |
| Funds Pledged | PPB | The total amount pledged by the investors against the goal of the project divided by the number of backers. |
| Number of backers | Logbackers | Natural logarithm of the number of backers. |
| Project’s Operations | Number of Updates | Logupdates | Natural logarithm of the number of updates posted by the project initiator. |
| Project Category | Dumcat | It is classified into eight categories based on the information from Demohour. These categories include household/homelife (HHHL), entertainment (ENTT) (it includes projects related to movies and music), smart wear (SW), digital communication technology (DCT), travel location (TL), office-related (OR), food life (FL) and cultural arts (CA). We define eight dummy variables for each project category.  |
| Time Duration | Duration | Difference between ‘starting and closing dates’ of the projects. |
| Comments | Logcomments | Natural logarithm of the number of comments by investors on the project’s page. |

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| **Table 2: Summary statistics** |
| **Variables** | **Mean** | **Standard Deviation** | **5th Percentile** | **95th Percentile** | **N** |
| Logsratio | -0.16 | 2.26 | -4.40 | 3.28 | 616.00 |
| Logfans | 28.04 | 123.76 | 1.00 | 143.5 | 616.00 |
| Dumyouku | 0.35 | 0.48 | 0.00 | 1.00 | 620.00 |
| Dumwechat | 0.48 | 0.50 | 0.00 | 1.00 | 620.00 |
| Dumprojpics | 0.65 | 0.48 | 0.00 | 1.00 | 620.00 |
| Logbackers | 174.50 | 441.58 | 2.00 | 671.50 | 619.00 |
| PPB | 329.33 | 599.62 | 26.67 | 1,203.48 | 619.00 |
| GPB | 2,527.39 | 16,992.05 | 13.16 | 6,250.00 | 619.00 |
| Logupdates | 44.00 | 84.82 | 2.00 | 148.00 | 618.00 |
| Duration | 152.85 | 157.20 | 31.00 | 483.00 | 620.00 |
| Logcomments | 223.99 | 776.23 | 2.00 | 765.00 | 614.00 |
| Innovation | 1.85 | 1.99 | 0.00 | 5.00 | 620.00 |
| Design | 1.88 | 2.01 | 0.00 | 5.00 | 620.00 |
| Practical | 1.85 | 1.99 | 0.00 | 5.00 | 620.00 |
| Note: This table presents the summary statistics for the full sample. The Logsratio represents the natural log of success ratio, Logfans is natural log of number of fans of a project, Dumyouku is a dummy variable if a project video is uploaded on the Youku, Dumwechat is a dummy variable if an entrepreneur has a Wechat account, Dumprojpics is a dummy variable for a project’s pictures availability on a project web page, Logbackers is natural log of number of backers of a project, PPB is amount pledged per backer, GPB is goal of a project per backer, Logupdates is natural log of the number of updates, Duration is the period available for fund collection, Logcomments is the natural log of number of comments about a project, and Innovation, Design, and Practical represent three different types of feedback provided by others. |

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|  | **Table 3: Correlation** |
|   | Variables | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 1 | Logsratio | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 | Logfans | 0.3 | 1 |  |  |  |  |  |  |  |  |  |  |  |  |
| 3 | Dumyouku | 0.05 | 0.01 | 1 |  |  |  |  |  |  |  |  |  |  |  |
| 4 | Dumwechat | 0.38 | 0.41 | 0 | 1 |  |  |  |  |  |  |  |  |  |  |
| 5 | Dumprojpics | -0.03 | 0.02 | 0.04 | 0.02 | 1 |  |  |  |  |  |  |  |  |  |
| 6 | Logbackers | 0.78 | 0.51 | 0.1 | 0.47 | -0.03 | 1 |  |  |  |  |  |  |  |  |
| 7 | PPB | 0.36 | 0.11 | 0.1 | 0.24 | 0.03 | 0.15 | 1 |  |  |  |  |  |  |  |
| 8 | GPB | -0.35 | -0.02 | -0.06 | -0.03 | 0 | -0.21 | 0 | 1 |  |  |  |  |  |  |
| 9 | Logupdates | 0.59 | -0.04 | 0.1 | 0.2 | -0.03 | 0.59 | 0.2 | -0.09 | 1 |  |  |  |  |  |
| 10 | Duration | -0.01 | 0.08 | -0.05 | -0.01 | 0 | 0.03 | -0.04 | -0.01 | 0 | 1 |  |  |  |  |
| 11 | Logcomments | 0.78 | 0.52 | 0.08 | 0.48 | -0.03 | 0.99 | 0.17 | -0.21 | 0.58 | 0.03 | 1 |  |  |  |
| 12 | Innovation | 0.42 | 0.47 | 0.02 | 0.42 | 0.01 | 0.48 | 0.15 | -0.03 | 0.21 | -0.02 | 0.48 | 1 |  |  |
| 13 | Design | 0.42 | 0.48 | 0.01 | 0.43 | 0.02 | 0.48 | 0.16 | -0.04 | 0.2 | -0.03 | 0.48 | 0.98 | 1 |  |
| 14 | Practical | 0.42 | 0.46 | 0 | 0.41 | 0.03 | 0.48 | 0.16 | -0.03 | 0.22 | -0.03 | 0.48 | 0.97 | 0.98 | 1 |
| Note: This table presents the correlation between the variables for the full sample. The Logsratio represents the natural log of success ratio, Logfans is natural log of number of fans of a project, Dumyouku is a dummy variable if a project video is uploaded on the Youku, Dumwechat is a dummy variable if an entrepreneur has a Wechat account, Dumprojpics is a dummy variable for a project’s pictures availability on a project web page, Logbackers is natural log of number of backers of a project, PPB is amount pledged per backer, GPB is goal of a project per backer, Logupdates is natural log of number of updates, Duration is the period available for fund collection, Logcomments is the natural log of number of comments about a project, and Innovation, Design, and Practical represent three different types of feedback provided by others.  |

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| **Table 4: Regression results for different models of crowdfunding success or failure** |
|   | (1) | (2) | (3) | (4) | (5) | (6) |
|   |   |   |   |   |   |   |
| Logupdates |  | 0.334\*\*\* |  |  | 0.353\*\*\* | 0.284\*\*\* |
|  |  | (0.043) |  |  | (0.044) | (0.045) |
| Duration |  | -0.004 |  |  | -0.002 | -0.003 |
|  |  | (0.007) |  |  | (0.007) | (0.006) |
| Logbackers |  | 0.753\*\*\* |  |  | 0.717\*\*\* | 0.804\*\*\* |
|  |  | (0.031) |  |  | (0.033) | (0.041) |
| PPB |  | 0.107\*\*\* |  |  | 0.099\*\*\* | 0.103\*\*\* |
|  |  | (0.008) |  |  | (0.009) | (0.009) |
| GPB |  | -0.008\*\*\* |  |  | -0.008\*\*\* | -0.008\*\*\* |
|  |  | (0.003) |  |  | (0.002) | (0.002) |
| Logfans | 0.326\*\*\* |  |  | 0.211\*\*\* |  | -0.133\*\*\* |
|  | (0.055) |  |  | (0.055) |  | (0.033) |
| Dumyouku | 0.229 |  |  | 0.324\*\* |  | -0.157\* |
|  | (0.144) |  |  | (0.140) |  | (0.081) |
| Dumwechat | 1.631\*\*\* |  |  | 1.111\*\*\* |  | -0.007 |
|  | (0.142) |  |  | (0.146) |  | (0.091) |
| Dumprojpics | -0.211 |  |  | -0.208 |  | -0.010 |
|  | (0.140) |  |  | (0.140) |  | (0.078) |
| intd1 |  |  | 2.236\*\*\* | 1.568\*\*\* | 0.313\*\* | 0.318\*\* |
|  |  |  | (0.222) | (0.221) | (0.140) | (0.143) |
| intd2 |  |  | 1.942\*\*\* | 1.503\*\*\* | 0.213\* | 0.221\* |
|  |  |  | (0.230) | (0.269) | (0.118) | (0.128) |
| intd3 |  |  | 0.912\*\*\* | 0.600\*\*\* | -0.009 | 0.009 |
|  |  |  | (0.179) | (0.190) | (0.104) | (0.104) |
| intd4 |  |  | 1.624\*\*\* | 0.916\*\*\* | 0.159\* | 0.254\*\*\* |
|  |  |  | (0.160) | (0.165) | (0.094) | (0.093) |
| intd5 |  |  | 1.135\*\*\* | 0.793\*\*\* | 0.119 | 0.121 |
|  |  |  | (0.166) | (0.174) | (0.106) | (0.104) |
| Constant | -1.161\*\*\* | -3.944\*\*\* | -1.083\*\*\* | -1.444\*\*\* | -3.951\*\*\* | -3.874\*\*\* |
|  | (0.139) | (0.161) | (0.103) | (0.143) | (0.163) | (0.173) |
| Dumcat | No | Yes | No | No | Yes | Yes |
| Adj. R-sq | 0.297 | 0.819 | 0.281 | 0.371 | 0.821 | 0.825 |
| F-Stat | 54.28\*\*\* | 259.9\*\*\* | 63.39\*\*\* | 39.98\*\*\* | 188.5\*\*\* | 151\*\*\* |
| VIF | 1.09 | 1.27 | 1.06 | 1.16 | 1.29 | 1.42 |
| AIC | 2248.15 | 1497.16 | 1496.99 | 1491.14 | 1490.44 | 2207.20 |
| BIC | 22619.94 | 1571.16 | 1592.75 | 1569.39 | 1546.95 | 2233.18 |
| Log Likelihood | -1119 | -732.2 | -1098 | -1096 | -727.6 | -726.5 |
| Observations | 577 | 571 | 561 | 577 | 571 | 574 |
| Note: This table presents the regression estimates for the full sample. The dependent variable is logsratio, defined as the natural log of success ratio. Logupdates is natural log of number of updates, Duration is the period for fund collection, Logbackers is natural log of number of backers for a project, PPB is amount pledged per backer, GPB is goal of a project per backer, Logfans is log of number of fans of a project, Dumyouku is a dummy variable if a project video is uploaded in Youku, Dumwechat is a dummy variable for the account of an entrepreneur on WeChat, Dumprojpics is a dummy variable for a project’s pictures uploaded on a project web page and intd1, intd2, intd3, intd4 and intd5 are dummy variables equal to 1 if a project gets 1-star, 2-star, 3-star, 4-star or 5-star any one of three feedback types (innovation, design, and practicality). Further, VIF is the mean variance inflation factor, AIC is the Akaike information criterion, and BIC is the Schwarz information criterion. Robust standard errors are given in parentheses. \*\*\*, \*\* and \* shows significance at 1%, 5% and 10% respectively.  |

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| **Table 5: Regression estimates using different measures of post-investment phase** |
|   | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| Logfans | 0.131\*\* | 0.133\*\* | 0.165\*\*\* |  |  |  | -0.144\*\*\* | -0.138\*\*\* | -0.143\*\*\* |
|  | (0.054) | (0.054) | (0.053) |  |  |  | (0.032) | (0.032) | (0.033) |
| Dumyouku | 0.318\*\* | 0.329\*\* | 0.334\*\* |  |  |  | -0.125 | -0.129 | -0.125 |
|  | (0.140) | (0.138) | (0.136) |  |  |  | (0.082) | (0.082) | (0.081) |
| Dumwechat | 0.834\*\*\* | 0.845\*\*\* | 0.802\*\*\* |  |  |  | -0.022 | -0.038 | -0.072 |
|  | (0.149) | (0.147) | (0.146) |  |  |  | (0.091) | (0.090) | (0.090) |
| Dumprojpics | -0.232\* | -0.272\* | -0.233\* |  |  |  | -0.022 | -0.030 | -0.037 |
|  | (0.138) | (0.139) | (0.137) |  |  |  | (0.077) | (0.077) | (0.077) |
| i1 | 2.030\*\*\* |  |  | 0.313\* |  |  | 0.375\*\* |  |  |
|  | (0.249) |  |  | (0.182) |  |  | (0.182) |  |  |
| i2 | 2.543\*\*\* |  |  | 0.339\*\* |  |  | 0.393\*\* |  |  |
|  | (0.292) |  |  | (0.137) |  |  | (0.154) |  |  |
| i3 | 1.743\*\*\* |  |  | 0.210 |  |  | 0.292\*\* |  |  |
|  | (0.217) |  |  | (0.136) |  |  | (0.141) |  |  |
| i4 | 1.694\*\*\* |  |  | 0.290\*\* |  |  | 0.423\*\*\* |  |  |
|  | (0.181) |  |  | (0.112) |  |  | (0.113) |  |  |
| i5 | 1.569\*\*\* |  |  | 0.276\* |  |  | 0.410\*\*\* |  |  |
|  | (0.198) |  |  | (0.144) |  |  | (0.139) |  |  |
| dn1 |  | 2.270\*\*\* |  |  | 0.409\*\* |  |  | 0.434\*\*\* |  |
|  |  | (0.266) |  |  | (0.161) |  |  | (0.168) |  |
| dn2 |  | 2.872\*\*\* |  |  | 0.403\*\* |  |  | 0.473\*\*\* |  |
|  |  | (0.294) |  |  | (0.173) |  |  | (0.178) |  |
| dn3 |  | 1.572\*\*\* |  |  | 0.236\* |  |  | 0.290\*\* |  |
|  |  | (0.211) |  |  | (0.130) |  |  | (0.129) |  |
| dn4 |  | 1.762\*\*\* |  |  | 0.316\*\*\* |  |  | 0.440\*\*\* |  |
|  |  | (0.188) |  |  | (0.119) |  |  | (0.116) |  |
| dn5 |  | 1.614\*\*\* |  |  | 0.237\* |  |  | 0.311\*\* |  |
|  |  | (0.195) |  |  | (0.129) |  |  | (0.132) |  |
| p1 |  |  | 2.409\*\*\* |  |  | 0.426\*\* |  |  | 0.490\*\*\* |
|  |  |  | (0.260) |  |  | (0.169) |  |  | (0.176) |
| p2 |  |  | 2.775\*\*\* |  |  | 0.398\*\* |  |  | 0.534\*\*\* |
|  |  |  | (0.258) |  |  | (0.156) |  |  | (0.158) |
| p3 |  |  | 1.635\*\*\* |  |  | 0.111 |  |  | 0.234\* |
|  |  |  | (0.205) |  |  | (0.139) |  |  | (0.135) |
| p4 |  |  | 1.689\*\*\* |  |  | 0.355\*\*\* |  |  | 0.553\*\*\* |
|  |  |  | (0.195) |  |  | (0.117) |  |  | (0.120) |
| p5 |  |  | 1.660\*\*\* |  |  | 0.206 |  |  | 0.297\*\* |
|  |  |  | (0.196) |  |  | (0.126) |  |  | (0.127) |
| Logupdates |  |  |  | 0.346\*\*\* | 0.349\*\*\* | 0.359\*\*\* | 0.281\*\*\* | 0.286\*\*\* | 0.283\*\*\* |
|  |  |  |  | (0.044) | (0.044) | (0.044) | (0.045) | (0.045) | (0.044) |
| Duration |  |  |  | -0.001 | -0.001 | -0.001 | -0.000 | -0.001 | -0.001 |
|  |  |  |  | (0.007) | (0.007) | (0.007) | (0.007) | (0.007) | (0.006) |
| Logbackers |  |  |  | 0.709\*\*\* | 0.702\*\*\* | 0.699\*\*\* | 0.800\*\*\* | 0.794\*\*\* | 0.791\*\*\* |
|  |  |  |  | (0.035) | (0.035) | (0.035) | (0.038) | (0.038) | (0.042) |
| PPB |  |  |  | 0.097\*\*\* | 0.097\*\*\* | 0.098\*\*\* | 0.101\*\*\* | 0.102\*\*\* | 0.102\*\*\* |
|  |  |  |  | (0.009) | (0.008) | (0.009) | (0.008) | (0.008) | (0.009) |
| GPB |  |  |  | -0.008\*\*\* | -0.008\*\*\* | -0.008\*\*\* | -0.007\*\*\* | -0.007\*\*\* | -0.008\*\*\* |
|  |  |  |  | (0.003) | (0.003) | (0.003) | (0.001) | (0.001) | (0.002) |
| Constant | -1.452\*\*\* | -1.434\*\*\* | -1.471\*\*\* | -3.950\*\*\* | -3.941\*\*\* | -3.961\*\*\* | -3.907\*\*\* | -3.896\*\*\* | -3.881\*\*\* |
|  | (0.145) | (0.145) | (0.144) | (0.164) | (0.166) | (0.164) | (0.162) | (0.164) | (0.175) |
| Dumcat | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Adj. R-sq | 0.382 | 0.394 | 0.410 | 0.823 | 0.823 | 0.822 | 0.832 | 0.831 | 0.830 |
| F-Stat | 43.45\*\*\* | 46.06\*\*\* | 50.74\*\*\* | 191.8\*\*\* | 192.3\*\*\* | 192.7\*\*\* | 152.5\*\*\* | 154.4\*\*\* | 155.5\*\*\* |
| VIF | 1.24 | 1.23 | 1.23 | 1.34 | 1.34 | 1.34 | 1.47 | 1.47 | 1.47 |
| AIC | 1474.993 | 1487.308 | 1486.59 | 2206.51 | 2226.51 | 2175.676 | 1484.356 | 1486.02 | 1490.001 |
| BIC | 1570.674 | 1583.066 | 1582.386 | 2250.123 | 2270.21 | 2219.254 | 1562.609 | 1564.273 | 1568.286 |
| Log Likelihood | -1093 | -1103 | -1078 | -724.2 | -725 | -727 | -715.5 | -721.7 | -721.3 |
| Observations | 579 | 584 | 577 | 571 | 571 | 572 | 572 | 574 | 575 |
| Note: This table presents the regression estimates for the full sample. The dependent variable is logsratio, defined as the natural log of success ratio. Logfans is log of number of fans of a project, Dumyouku is a dummy variable if a project’s video is uploaded in Youku, Dumwechat is a dummy variable for the account of an entrepreneur on WeChat, Dumprojpics is a dummy variable for a project’s pictures availability on a project web page, i1, i2, i3, i4 and i5 are dummy variables equal to 1 if a project gets 1-star, 2-star, 3-star, 4-star or 5-star on innovation, d1, d2, d3, d4, and d5 are dummy variables equal to 1 if a project gets 1-star, 2-star, 3-star, 4-star or 5-star on design and p1, p2, p3, p4 and p5 are dummy variables equal to 1 if a project gets 1-star, 2-star, 3-star, 4-star or 5-star on practicality, Logupdates is natural log of number of updates, Duration is the period for fund collection, Logbackers is natural log of number of backers for a project, PPB is amount pledged per backer, and GPB is goal of a project per backer. Further, VIF is the mean variance inflation factor, AIC is the Akaike information criterion, and BIC is the Schwarz information criterion. Robust standard errors are given in parentheses. \*\*\*, \*\* and \* shows significance at 1%, 5% and 10% respectively.  |

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| **Table 6: Nested and non-nested model tests** |
| Panel A: Non-Nested Tests |
| Comparisons | Competing Models | Davidson- Mackinnon J Test | Cox-Pesaran- Deaton test |
| 1 | H0:M1/H1: M2 | 36.96\*\*\* | -79.54\*\*\* |
| H0:M2/H1: M1 | -1.85\* | 1.96\*\* |
| 2 | H0:M1/H1: M3 | 7.03\*\*\* | -10.37\*\*\* |
| H0:M3/H1: M1 | 6.96\*\*\* | -10.25\*\*\* |
| 3 | H0:M2/H1: M3 | -0.09 | 1.48\* |
| H0:M3/H1: M2 | 18.17\*\*\* | -59.87\*\*\* |
|   |
| Panel B: Nested Test |
| Phase | Wald Test |   | Likelihood Ratio Test | Akaike Information Criterions |
| F-Stats | R-Squared |   | Log-Likelihood | Likelihood Ratio |  |
| Specification 1 |
| M1 | 31.58\*\*\* | 0.17 |  | -1303.95 | 115.71\*\*\* | 2617.91 |
| M2 | 103.84\*\*\* | 0.74 |  | -941.16 | 725.59\*\*\* | 1918.32 |
| M3 | 2.40\*\*\* | 0.75 |  | -953 | 12.32\*\*\* | 1916 |
| Specification 2 |
| M1 | 31.58\*\*\* | 0.17 |  | -1303.95 | 115.71\*\*\* | 2617.91 |
| M2 | 103.84\*\*\* | 0.74 |  | -941.16 | 725.59\*\*\* | 1918.32 |
| M3 | 3.29\*\*\* | 0.75 |  | -932.73 | 16.85\*\*\* | 1911.47 |
| Specification 3 |
| M1 | 31.58\*\*\* | 0.17 |  | -1303.95 | 115.71\*\*\* | 2617.91 |
| M2 | 103.84\*\*\* | 0.74 |  | -941.16 | 725.59\*\*\* | 1918.32 |
| M3 | 3.01\*\*\* | 0.75 |  | -933.43 | 15.46\*\*\* | 1912.87 |
| Specification 4 |
| M1 | 31.58\*\*\* | 0.17 |  | -1303.95 | 115.71\*\*\* | 2617.91 |
| M2 | 103.84\*\*\* | 0.74 |  | -941.16 | 725.59\*\*\* | 1918.32 |
| M3 | 4.95\*\*\* | 0.75 |   | -928.56 | 25.20\*\*\* | 1903.12 |
| Note: This table presents the results for nested and non-nested model tests used in the study. M1 represents the model with pre-launching stage variables only, M2 is with the variables from the investment processing stage, and the last M3 is with post-investment stage variables only. Panel A shows the test statistics for Davidson- Mackinnon J-Test and Cox-Pesaran- Deaton test for the best model. Panel B shows F-statistics, R-Squared, Log-Likelihood Value, Likelihood Ratio, and Akaike Information Criterion. \*\*\*, \*\* and \* shows significance at 1%, 5% and 10% respectively |

1. “Zhongchou”, and “Dreamore” are the other two crowdfunding platforms available in China (Yuan et al., 2016). [↑](#footnote-ref-1)