Guanxi, trust and reward-based crowdfunding success: a Chinese case

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Purpose

This paper aims to examine different hypotheses concerning the effects of guanxi on the reward-based crowdfunding project fundraising. Specifically, this study provides new insights into how guanxi and guanxi intensity may affect reward-based crowdfunding success and project performance in the Chinese context.

Design/methodology/approach

The research data including 989 crowdfunding projects was collected from zhongchou.com which is the largest reward-based crowdfunding platform in a one-year period (2014.1-2014.12). The hypotheses are tested by using robust OLS regressions and robust logistic regressions. Robustness check was also conducted in order to test the validation of our results.

Findings

This paper found that project developers' guanxi-establishing behavior conducted before launching their own projects such as being fans of other projects and supporting other projects are positively related to project success. In addition, the intensity of guanxi-establishing behavior positively influences project performance in a significant way. Besides, the establishment and maintenance of project developers' guanxi with funders during the fundraising process are also positively associated with project success and fundraising performance.

Originality/value

Based on the theory of trust, this paper offers an interesting and novel perspective to investigate reward-based crowdfunding success in the Chinese context by taking guanxi and guanxi intensity into consideration.

Keywords: Reward-based crowdfunding; Success; Guanxi; China

Introduction

Crowdfunding as a new financing tool is increasingly becoming common globally. The concept of crowdfunding emerged from the broader concept of crowdsourcing, which implies using the "crowd" to as a source of ideas, feedback, and solutions to develop corporate activities (Belleflamme et al., 2013). The global crowdfunding market grew from 1.5 billion USD in 2011, to 2.7 billion USD in 2012, 6.1 billion USD in 2013, 16.2 billion USD in 2014 and an estimated volume of 34.4 billion USD in 2015(World Bank, 2013).

Though financing startups through crowdfunding are growing fast and have emerged as a viable method of funding new ventures, academic research on crowdfunding is emerging. A number of peer-viewed work on crowdfunding has been published (e.g., Mollick, 2014). Previous crowdfunding research is mainly focused on participant motivation, campaign success, regulation and institutions (Ramos, 2014). Among these research perspectives, crowdfunding success research is dominating (e.g., Mollick, 2014; Xu et al., 2014; Kuppuswamy & Bayrus, 2014; Giudici et al., 2013). Based on signaling theory (Spence,2002), through analyzing real crowdfunding platform data, prior research has found out a list of success factors for successful fundraising such as entrepreneur's human capital (Zheng et al., 2016), campaign's quality signals (e.g., Mollick, 2014) and entrepreneur's social networking (Colombo et al., 2015).

Differ from the rule-based western countries, China is well known as a guanxi-based economy (Boisot & Child, 1996). Prior research has identified the significant role of interpersonal trust (guanxi) in doing business in China (Chung & Hamilton, 2001). According to The World Bank, the total market potential is estimated to be up to 90-96 billion per year by 2025. The largest market and market growth is expected to be in China, which accounts for about 46-50 billion USD (World Bank, 2013). To develop the most potential crowdfunding market, it is not only important but also meaningful to understand how interpersonal trust (guanxi) influences the performance of the crowdfunding campaign in the Chinese context. To mitigate this research gap, this paper employed the trust theory to examine how the interpersonal trust (guanxi) between entrepreneurs and funders affects reward-based crowdfunding success. By analyzing the data collected from the largest reward-based crowdfunding platform (zhongchou.com) in China, we found out the established guanxi between entrepreneurs and funders is positively associated with crowdfunding campaign success. Furthermore, stronger guanxi leads to better campaign performance.

Culture has an important effect on an individual's social life and that people from different cultural backgrounds have different beliefs, attitudes, and behaviors (Staber, 2006). Compared to the studies based on western crowdfunding platforms, little research has been done based on the Chinese context. Theoretically, this study introduces the theory of trust to the crowdfunding literature. Based on the theory of trust, this paper is one of the first empirical paper to investigate the effects of guanxi on the performance of reward-based crowdfunding in China. The results of this study offer a novel way to understand crowdfunding success in the Chinese context. In addition, it also provides practical suggestions for crowdfunding platform creators and project developers.

The remaining sections are organized as follows. First, literature reviews about crowdfunding and trust were introduced. Then, hypotheses are developed based on the first part. Next, data sources, selection procedure, and variable measurement were explained. Empirical results were

introduced in the next section. In the last section, discussion, implications, and limitations are discussed.

Literature review

Crowdfunding and reward-based crowdfunding

Mollick (2014) defines crowdfunding in an entrepreneurial context as "Crowdfunding refers to the efforts by entrepreneurial individuals and groups (cultural, social, and for-profit) to fund their ventures by drawing on relatively small contributions from a relatively large number of individuals using the internet, without standard financial intermediaries." Crowdfunding business models can be divided into four types: donation-based, reward-based, equity-based and loan-based according to different exchange content between creators and investors (Massolution, 2013). Based on their different characteristics, these four types can be described by three categories: donation model, passive investment model and active investment model (Schwienbacher & Larralde, 2010). Crowdfunding based on donation has long been applied for financing not-for-profit and NGOs projects (Defourny et al. 2010). In passive investment model, funders have no other interaction or communication with entrepreneurs except having investing rewards, tailored products, honorary recognition, or other kinds of sharing from crowdfunding projects. However, active investments offer crowdfunding investors more opportunities to communicating and interacting with entrepreneurs or project creators. Often investors participate in the project's executing process. Active investors can help design new features, test the product, and provide development paths and feedback (Lehner, 2013).

In this paper, we focus on reward-based crowdfunding. Reward-based crowdfunding can be defined as "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" (Lambert & Schwienbacher, 2010). Belleflamme et al. (2013) list three key characteristics of reward-based crowdfunding: First, it often relies on the advanced purchase of products that are not available on the market. Entrepreneurs who start crowdfunding projects describe what the final product will be and offer a list of nonmonetary rewards for potential funders who are willing to invest. Second, funders pay more costs in the pre-ordering process than traditional consumers. The costs include time and communication cost. Third, funders identify themselves as active participants involved in the whole product creation process, which ranges from the initial investment of money to direct involvement in the crowdfunding campaign.

Theory of Trust

Trust has been studied in various disciplines and contexts such as psychological, sociological and economic (Wang & Emurian, 2004). Mayer et al. (1995) conceptualize trust as the "willingness of a party to be vulnerable to the actions of another party based on the expectations that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party". In general, trust refers to a dependence on the integrity, ability, or character of a person or a thing. In other words, it means that the trustor has confidence that the trustee will care about his or her benefits, and that the trustor is willing to rely on the trustee's decision even when the result is not visible immediately (Kini & Choobineh, 1998). Trust is the willingness to rely on another party and to take action in circumstances where such action makes one vulnerable to the other party (Doney et al., 1998). Shapiro et al. (1992) conclude that trust

has three bases: 1. Trust based on deterrence emphasizes costs and benefits. 2. Trust based on knowledge emphasizes the target understanding. 3. Trust based on identification emphasized the common values.

Trust studies in the business context are not new. A trust-based relationship is widely recognized as one of the most significant factors for many successful companies or organizations (McAllister, 1995). The notion of information asymmetry makes trust of great importance for business transactions. Trust can benefit companies by reducing their transaction costs, increasing their flexibility and efficiency, and helping them to design their future marketing plans or strategies more accurately (Chen & Dhillon, 2003). Most business transactions need to take trust into consideration in order to be successful. According to James (2002), trust is essential in economic exchanges. Viewed from an economic standpoint, trust is an expectation that people will not be exploited by others. Wang and Emurian (2004) conclude that trustor and trustee, vulnerability, produced actions and subjective matter as four characteristics of trust.

With the emergence and fast growth of online business, scholars have shown a strong interest in investigating the information asymmetry issue between buyers and sellers in the context of trust (Connelly et al., 2010). Information asymmetry can be defined as the cost of information gathering, monitoring and distributing. (Agrawal et al., 2011). Trust and trust-building mechanisms are of great importance to solve such issues in the context of e-business (e.g., Ba & Pavlou, 2002). With Trust, perceived uncertainty and risk associated with anonymous online exchanges can be reduced. At the same time, consumers can feel more confident when exchanging personal information and purchasing goods online (Ba & Pavlou, 2002). Pavlou (2003) suggests that trust play a key role in explaining the online consumer's behavior. Building and maintaining trust in the online distribution channel is more important than in an offline environment has emerged as a consensus among scholars. Grabner-Krauter & Kaluscha (2003) argue that the degree of uncertainty of trust is greater in an online environment. Unlike trust, that has been defined by different scholars in different dimensions, in the case of the online trust, there is no consensus rather a multi-dimension view according to Lee and Turban (2001) and Yoon (2002)'s. Ganguly et al. (2010) define online trust to be "perceived credibility and benevolence of the online store in the eyes of consumer" in an online store context based on Stephens (2004)'s. In terms of crowdfunding, there are three stakeholders involved in trust creating: funders, entrepreneurs/founders and the platform. As a result, two different trust forms have emerged: interpersonal-based trust and institution-based trust (Tan & Sutherland, 2004). As a guanxi-based economy (Boisot & Child, 1996), interpersonal trust (guanxi) is of great importance in doing business in China (Chung & Hamilton, 2001).

Interpersonal trust in China: guanxi

Interpersonal trust refers to the individual's trust and beliefs about the others in the context of a transaction. In the context of this study, it refers to the trust-building mechanisms between entrepreneurs and investors. In this study, interpersonal trust can be specifically defined as the potential funder's trust towards project initiator on a crowdfunding platform. In China, interpersonal trust is more important than institutional trust. Because such interpersonal trust offers an informal but effective way to deal with business transactions when formal legal sanctions are void or ineffective. In this case, it is interesting and relevant to understand why some projects get successfully funded while others not on the same crowdfunding platform in China.

Chinese potential funders may not invest in the projects which they may be interested in because of the “perceived risk” they see (Chellappa, 2008). Kim et al. (2008) define perceived risk as a consumer's belief about the potential uncertain negative outcomes from the online transaction. Cho and Lee (2006) refer to perceived risk as an individual's biased assessment of a risk situation which is highly dependent on the individual's psychological and situational characteristics. Perceived risk precedes consumers' trust has been tested by various studies in online business. In China, the perceived risk of crowdfunding transaction comes from the void of institutional trust in crowdfunding, in addition to information asymmetry.

Interpersonal trust is also a kind of dispositional trust. Rotter (1971) firstly deduce the concept of dispositional trust based on psychological research. Dispositional trust can be explained as one’s personality-driven capacity to show trust in general (Tan & Sutherland, 2004). Such ability is obtained from the belief that other ones are reliable and trustworthy. Therefore, generally, different people vary in their propensity to trust based on their distinctive personality. Dispositional trust as something endogenous and can be accumulated with more interaction (McKnight et al., 1998). Guanxi is a Chinese word referring to interpersonal nexus. It has been defined as the fundamental organizational principle of Chinese society (Fei, 1992). Closer guanxi between two partners helps their relationship move toward and then generate trust (Fukuyama, 1995). Specifically, in an online business context, buyers and sellers must create some form of guanxi. Lack of protection due to weak institutional environment and lack of institutional-based trust pushes online business participants to rely on interpersonal relationships to conduct transactions. They must depend on guanxi in the absence of systemic rules in order to alleviate the risk of e-business (Martinsons, 2008). Therefore, guanxi can be explained as a tool to generate trust by mitigating perceived risk.

Besides，guanxi is the result of the unique Chinese culture and social background. Hofstede (1980) mentions that a high degree of collectivism is one key aspect of Chinese culture. Therefore, one outstanding feature of Chinese culture is the close personal relationship (Casimir et al., 2006). Specifically, Hui and Triandis (1986) suggest that Chinese people belong to strong and cohesive in-groups such as extended families from birth onward. As a result, Chinese behave differently by distinguishing in-groupers and out-groupers. For in-groupers (people with guanxi), they would like to pay more attention to help or cooperate. In contrast, out-groupers (people without guanxi) will get no trust from in-groupers (Fukuyama, 1995).

However, guanxi cannot be treated merely as a cultural phenomenon. Guanxi was of great importance for business practice in distrust and hostile colonial environment (Kiong & Kee, 1998). Guanxi has been embedded in the daily practices of the Chinese business community (Chung & Hamilton, 2001). Lee and Dawes (2005) refer to guanxi as a formality or necessary procedure which people must go through in order to establish an intention to conduct business with one another. Chinese businessmen treat guanxi as a primary medium for business relationships (Chung & Hamilton, 2001). Guanxi is fundamental to Chinese economic transactions. The establishment of guanxi depends on guanxi base. Jacobs (1979) refers to guanxi base as “a base which two or more persons have a commonality of shared identification”. In a business perspective, Kiong and Kee (1998) mention that trade associations can be seen as guanxi base. Trade associations gather information to generate opportunities for guanxi establishment between potential buyers and sellers. In e-business context, such interaction can help transfer visitors into buyers as well as help sellers establish a relationship with buyers (e.g.,

Teo et al., 2003) through interpersonal relationship establishment and social communication (Chen & Chen, 2004).

Hypotheses development

Differ from the rule-based western countries, China is organized by a relation-based system (Li et al., 2004). In a relation-based system, formal legal sanctions are sometimes not enough to facilitate performance of exchange (Kiong & Kee, 1998). In terms of crowdfunding, as a new fundraising channel, not enough regulations are established by the government to supervise the crowdfunding market in China. As a result, funders' evaluation of crowdfunding projects by assessing the quality signals cannot be well supported. Without a well-established regulation system, the project's quality signals will not reduce information asymmetry effectively. Because signalers (developers) and receivers (funders) have partially distinct interests (Johnstone & Grafen, 1993). Therefore, inferior signalers have the incentive to produce false signals to cheat receivers. For instance, in a weak institutional supervision environment, project developers may exaggerate or overstate their project quality in order to get successful fundraising (Gregg & Walczak, 2008). Therefore, in order to facilitate project quality evaluation, interpersonal trust must be taken into consideration. When the institutional trust is void or ineffective, it offers an informal but effective way to decrease information asymmetry. Interpersonal trust describes a person's trust and belief about the others. In the crowdfunding context, it refers to the trust-building mechanisms between project developers and potential funders. The interpersonal nexus in China is described by guanxi.

Different to kinship as blood-based guanxi (Kiong & Kee, 1998), the guanxi between project developers and funders is based on social interaction which can be treated as social-based guanxi. In crowdfunding context, it offers a "comment area" to facilitate interactive communication process between founders and funders. In this area, founders can post their project update information and answer (potential) funders' questions about their project. Funders can ask questions and leave comments about projects. Founders can refine their projects based on funders' advice or comments. At the same time, potential funders will turn into funders as they have more instant feedback information from the initiators. Through this interactive communication process, founders and funders can communicate with each other, mitigate disagreements, overcome information asymmetries, negotiate refinement, and ultimately reach an outcome that is satisfactory for both sides. It is an effective mechanism to generate guanxi between founders and funders based on crowdfunding platform acting as guanxi base. This process helps to strengthen mutual understanding between founders and funders through this interactive communication. As a result, guanxi is generated.

The crowdfunding platform is not only a fundraising marketplace but also an online community (Hui, Gerber & Greenberg, 2013). The platform offers interacting opportunities for potential funders and fund seekers. Therefore, the crowdfunding platform can be treated as a guanxi base (Kiong & Kee, 1998) which can be used to establish guanxi between funders and fund seekers. As a two-sided platform, a project developer can also be a project supporter at the same time (Zvilichovsky et al., 2014). If project developers have ever supported projects or like projects on the crowdfunding platform, they actually release some positive guanxi-establishing signals towards the potential funders before they launch their own projects. They stay in this market not only for seeking fund but also for helping others. From potential funders' perspective, they are all project supporters or fans in the same crowdfunding community. They share similar

motivations and mutual value as crowdfunding community members. Although they don't know each other before, they are not strangers anymore as they co-habited on the same guanxi base. Potential funders tend to treat these dual role project developers as community members because of their positive guanxi-establishing signals. Therefore, they are more eager to support their projects based on community recognition.

On basis of the discussions, we propose the hypotheses:

H1：Being active crowdfunding community participants before launching their own projects is positively associated with fundraising success.

H1a: A project developer who has ever been a fan of other projects before launching his (her) own project is positively associated with project success.

H1b: A project developer who has ever supported other projects before launching his (her) own project is positively associated with project success.

H2: The intensity of participating in the crowdfunding community before launching their own projects is positively associated with their project fundraising performance.

H2a: The number of projects which a project developer has ever been a fan of before launching his/her own project is positively associated with his/her fundraising performance.

H2b: The number of projects which a project developer has ever supported before launching his/her own project is positively associated with his/her fundraising performance.

Davila et al. (2003) mentioned that signals are essentially snapshots pointing to unobservable signaler quality at a particular point in time. However, the information for signalers and receivers is always changing in a dynamic environment. Therefore, signalers must signal repetitively in order to keep signal effectiveness for reducing information asymmetry (Park & Mezias, 2005). Guanxi as a form of signal also needs to be maintained after its establishment in order to remain effective (Chung & Hamilton, 2001). Reciprocity is a distinctive characteristic of guanxi (Chung & Hamilton, 2001). Reciprocity means the positive benefits of mutual interaction from both participants in the transaction. The interaction between founders and funders is from reciprocity. In the case of a reciprocity cycle, initiators will post project related information as updates about their projects firstly. Then potential funders will offer suggestions or ask questions as the feedback of initiators' updates. Then developers will try to write comments in order to answer their questions. This is the beginning of building guanxi between developers and potential funders. Founders can then refine their projects based on the funders' suggestions and comments. As a result, potential funders' perceived risk about the projects is decreased, therefore the distrust is eliminated due to the gradually enhanced guanxi based on the repeated reciprocity interaction. Therefore, the intensity of guanxi between developers and funders should influence fundraising performance. A project developer with more interaction with funders would generate stronger guanxi which leads to better fundraising result.

Based on the analysis, the following hypothesis is proposed:

H3: The establishment of guanxi during the fundraising period between project initiators and funders is positively associated with crowdfunding success.

H4: Project initiators who have a stronger intensity of guanxi with funders in the fundraising period will have better fundraising performance.

Data and methodology

Data Collection

The data of this paper is collected from zhongchou.com which is the largest reward-based crowdfunding platform in China. Since established in February 2013, this platform is focused on supporting reward-based crowdfunding projects fundraising. Similar to Kickstarter, the projects on zhongchou.com employ the "all-or-nothing" model. It means a project can only be recognized as a successful project if a project's pledge amount surpasses the project's target amount by the end date of its funding period. If a project failed to reach the target amount, the pledge will be returned to the funders.

Our dataset consists of all the projects posted on zhongchou.com between January 1, 2014, and December 31, 2014. Only successful project information is accessible on zhongchou.com. The failed projects are deleted by the end of the funding period. However, following similar crowdfunding studies (e.g., Mollick, 2014), we wrote a web-crawler program to collect all project related information in the one-year period. This automatic data collecting method offers high levels of data validity when dealing with online data (Mollick, 2014). Over the one-year period, we successfully collected all project related information for 1347 projects from zhongchou.com. We removed all the projects under the category public. Because charity crowdfunding projects are donation-based crowdfunding (Hemer, 2011). In addition to public projects, we also removed the projects which are launched by experienced project developers in order to eliminate the predicted bias caused by experienced developer's "learning by doing" (Hsu, 2007) behavior. It is obvious that an experienced initiator who has developed several projects before having a higher chance to create better candidates for future success funding (Gompers et al., 2010).In addition, we also identified and removed the outlier projects which pledges and targets are extremely large.

After the data cleaning, our final dataset includes 989 projects from five categories (Technology, Publishing, Entertainment, Arts, Agriculture, and Others). We collect the following information about every project: project fundraising result, project total fundraising amount, project fundraising ratio, project duration, project target, project perk levels, project comments (funder and founder), has video, the length of the project description, project location, project category, project picture number, project fans number, project update number, and project launched month. Besides, whether the founder has ever liked and supported other projects before launching their projects were also collected. Our final dataset includes all projected related information on 989 projects.

Based on the collected information, we coded them into three kinds of variables in the next section: the dependent variable, independent variables, and control variables.

Measures

Dependent variables

Success: This is a binary dummy variable. If one project's end pledges are equal or greater than the fundraising target, the project can be seen as a successful project. The dummy value is one for successful projects. Otherwise, the dummy value is zero for failed projects.

Pledge: The total amount of all pledges made by the backers of a crowdfunding project.

Independent variables

Like: This is a binary dummy variable. If one founder had ever been fans by liking projects on zhongchou.com, the dummy value is one. Otherwise, the dummy value is zero.

Likenum: The total number of likes a project developer has given to other projects before launching his/her own project.

Support: This is a binary dummy variable. If one founder had ever been a funder by supporting projects on zhongchou.com, the dummy value is one. Otherwise, the dummy value is zero.

Supportnum: The total number of projects a project developer has supported before launching his/her own project.

Guanxi: This is a binary dummy variable. If one founder has ever written comments to answer questions, the dummy value is one. Otherwise, the dummy value is zero.

Guanxi intensity: Guanxi intensity can be calculated by a project developer's total comment number divides by the total number of comments from both project developer and funders.

Control variables

Wordcount: The length of a project's description in words.

Video: This is a binary dummy variable. If there is a video on one project's webpage, the dummy value is one. If there is no video on it, the dummy value is zero.

Picture: The total number of pictures posted on one project's webpage.

Duration: The number of days for a project to raise funding.

Perks: The number of reward perks shown on one project's webpage.

Fans: The total number of fans of a project.

Update: The total number of updates of a project.

Target: The total amount of money that the fund seekers need.

Category: A set of dummy variables (Technology, Publishing, Entertainment, Arts, Agriculture, and Others) to distinguish which category one project belongs to.

Location: A set of dummy variables to distinguish where one project was created. The projects come from thirty different Chinese provinces, municipalities or autonomous districts.

Month: A set of dummy variables to distinguish in which month a project is launched.

The descriptive statistics of all variables are shown in Table 1.

—Insert Table 1 about here—

Results

According to the results of Table 1, we noticed that some of the variables are not normally distributed with high skewness. To decrease regression bias, we transfer all the skewed variables into the natural log form.

We calculated the variance inflation factors (VIFs) of all the variables. The average VIF is 1.04 which is below the conventional threshold of 6, and the maximum VIF is 1.07 which is below the conventional threshold of 10 according to the suggestion threshold of McDonald & Moffitt (1980). Therefore, no multi-collinearity existed in our dataset. The correlation matrix of all variables is presented in Table 2.

—Insert Table 2 about here—

To test the hypotheses, both robust OLS regression and robust logistic regression are conducted. Table 3 reports the regression results by six models.

—Insert Table 3 about here—

In terms of model explanatory power, the value of PR^2 or R^2 of all our models suggests that our independent variables explain a substantial portion of the dependent variables. For instance, the minimum value of PR^2 or R^2 is 0.39 and the highest value is 0.57. We can state that all our models have adequate explanatory power.

For the empirical results, H1a and H1b are tested by the results Model 1 and Model 2 in Table 3. Robust logistic regressions are conducted to estimate Model 1 and Model 2 because the dependent variable (*Success*) is binary. As expected, our independent variables (*Like* and *Support*) are positively associated with the success of a crowdfunding campaign (B=0.898, $p < .001$; B=0.650, $p < .001$). In terms of the H2, H2a and H2b are tested by Model 3 and Model 4 in Table 3 respectively. Robust OLS regression is chosen to test H2a and H2b. Because the dependent variable is crowdfunding performance (*Ln_pledge*) which is a continuous variable. According to the results in Table 3, *Ln_likenum* and *Ln_supportnum* have positive influences on project performance (B=0.328, $p < .001$; B=0.428, $p < .001$). To sum up, we find evidence that the presence of project developers' guanxi-establishing behavior before launching their projects is positively associated with crowdfunding success (H1) and the intensity of the guanxi-establishing behavior positively affect project fundraising performance. H3 and H4 are tested by Model 5 and Model 6 in Table 3. Robust logistic regression is used to estimate Model 5 and Robust OLS regression is used to estimate Model 6. According to the results in Table 3, *Guanxi* is positively associated with crowdfunding project success (B=2.018, $p < .001$). *Guanxi intensity* significantly influences crowdfunding project performance (B=1.224, $p < .001$). The results proved that the presence of project developers' guanxi-establishing behavior during the fundraising period is positively associated with crowdfunding success (H1) and the intensity of the guanxi positively affect project fundraising performance.

In addition, our findings for the effects of control variables are similar to prior studies (e.g., Mollick, 2014; Colombo et al., 2015). For instance, *Target* and *Duration* are negative and significant ($p < .001$) in predicting crowdfunding success and fundraising performance. *Video*, *Ln_wordcount*, and *Ln_picture* as quality signals are positively and significantly ($p < .001$) related to crowdfunding success and fundraising performance.

—Insert Table 4 about here—

To examine the robustness of our results, we conduct additional estimates of our models. We use the natural log transformation of fundrate (*Ln_fundrate*) as a new dependent variable to re-estimate the six models (Fundrate is the ratio of *Pledge* and *Target*). The results of the new estimations are reported in Table 4. According to the results of Table 4, our results are still robust if we use *Ln_fundrate* as the new dependent variable to estimate crowdfunding success and performance. Specifically, all the coefficients of *Like*, *Support*, *Ln_likenum*, *Ln_supportnum*, *Guanxi*, and *Guanxi intensity* are positive and significant ($p < .001$) in all six Models of Table 4.

Discussion and conclusion

This paper investigates the role of guanxi on the success and performance of reward-based crowdfunding projects in China. By analyzing a sample of 989 projects from the largest reward-based crowdfunding platform in China, we found that guanxi plays an important role in Chinese reward-based crowdfunding context.

There are some limitations in this paper. First, the results of this study are only based on the largest crowdfunding platform in China. Whether the result of this study can be used to explain other Chinese reward-based crowdfunding practice is still suspending. At this point, this study is meant to describe what happens, but a more comprehensive study is needed to increase the generalizability of the findings. A more systematic analysis based on more attainable data is necessary to probe the success factors of the Chinese crowdfunding campaign. Second, this paper only studies the influence of guanxi on crowdfunding success in the reward-based crowdfunding context. Whether our findings can be used to explain project success and project performance in other crowdfunding models is still unknown. Third, crowdfunding in China is still emerging. Our research dataset which including 989 projects is relatively small when compared to similar empirical crowdfunding studies based on western markets.

This paper makes significant theoretical contributions. This paper is also one of the first to examine the role of guanxi in the Chinese crowdfunding context. Existing crowdfunding success literature tends to use project quality signals and social capital to explain crowdfunding success universally. But there is little literature on the effect of guanxi on crowdfunding projects. This paper facilitates the understanding of crowdfunding success in a relation-based emerging market by taking guanxi and guanxi intensity into consideration. Our findings show that guanxi plays an important role in Chinese crowdfunding context. The main reason for the significant relationship between guanxi and crowdfunding results is because Chinese business market is relation-based. In terms of reward-based crowdfunding market in China, as a new fundraising channel, regulations in this market are not only inadequate but also incomplete. Therefore, project developers may overstate their project qualities in order to get funded successfully. In a relation-based environment, the interpersonal relationship is more important than regulations to form the trust. The measure of interpersonal trust in China is guanxi. Guanxi has been long embedded in Chinese business practice. Based on our results, we found that guanxi also plays an important role in the crowdfunding context. Specifically, project developers' guanxi-establishing behavior conducted both before launching and during fundraising significantly influence crowdfunding success and fundraising performance in a positive way. In addition, the intensity of such guanxi related behavior also matters to crowdfunding result. The effectiveness of guanxi related factors is based on Chinese unique social characteristics. In addition, our findings also extend the trust

theory and signaling theory by taking guanxi as a signal to establish trust. Further, this paper provides a starting point to examine Chinese crowdfunding phenomenon. It is of great value to explore crowdfunding practice in different cultural and social backgrounds which are enrichments of crowdfunding literature.

Besides, this paper also provides some practical implications for crowdfunding platform creators and project developers. First, it is important for project developers to provide detailed project information of their projects such as detailed project description, descriptive video, and vivid pictures. These quality signals will make potential funders feel these projects are of high quality. At the same time, project developers should also establish and maintain guanxi with the potential funders both before and after launching their projects. In order to strengthen the guanxi, project developers should conduct repeated reciprocity interaction with funders through posting updates and answering questions. Second, Chinese reward-based crowdfunding platform creators should offer different ways to facilitate the guanxi establishment and maintenance process between project developers and funders. For example, the crowdfunding platform should embed some instant chatting tools on projects' websites in order to facilitate interactions between project developers and funders.

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Tables:

Table 1 Descriptive Statistics

Variable	Obs	Mean	S. D.	Min	Max
Pledge	989	26100.58	93492.56	1.00	1271230.00
Fundrate	989	1.17	2.84	0.01	63.72
Success	989	0.54	0.50	0.00	1.00
Like	989	0.60	0.49	0.00	1.00
Likenum	989	39.32	92.99	0.00	1218.00
Support	989	0.46	0.50	0.00	1.00
Supportnum	989	1.21	3.31	0.00	65.00
Guanxi	989	0.21	0.41	0.00	1.00
Guanxi_intensity	989	0.08	0.17	0.00	0.94
Video	989	0.52	0.50	0.00	1.00
Wordcount	989	1531.80	1262.11	13.00	13913.00
Picture	989	7.17	6.00	1.00	38.00
Update	989	3.38	3.88	1.00	26.00
Target	989	33033.99	92052.72	1000.00	1000000.00
Fans	989	186.88	433.27	3.00	5575.00
Perks	989	6.46	2.23	2.00	30.00
Duration	989	46.70	30.17	1.00	301.00

Table 2 Correlation Matrix

	Like	Support	Ln_likenum	Ln_supportnum	Guanxi	Guanxi_intensity	Video	Ln_picture	Ln_wordcount	Ln_update	Ln_fans	Ln_duration	Perks	Ln_traget
Like	1													
Support	-0.019	1												
Ln_likenum	0.011	0.812***	1											
Ln_supportnum	0.86***	0.026	0.045	1										
Guanxi	-0.001	0.090***	0.129***	0.117***	1									
Guanxi_intensity	0.034	0.034	0.088***	0.145***	0.859***	1								
Video	0.06*	0.057*	0.035	0.159***	0.251***	0.157***	1							
Ln_picture	0	-0.005	-0.004	0.067**	0.099***	0.079**	0.137***	1						
Ln_wordcount	0.07**	0.081**	0.057*	0.087***	0.047	0.047	0.132***	-0.013	1					
Ln_update	-0.065**	0.129***	0.135***	0.096***	0.617***	0.476***	0.367***	0.192***	0.069**	1				
Ln_fans	0.092***	-0.011	-0.031	0.272***	0.328***	0.299***	0.283***	0.062*	0.070**	0.393***	1			
Ln_duration	-0.116**	-0.063**	-0.086***	-0.120***	0.085***	0.032	0.001	0.134***	0.031	0.216***	0.048	1		
Perks	-0.028	0.049	0.015	0.034	0.02	0.019	0.110***	0.116***	0.032	0.114***	0.090***	0.160***	1	
Ln_traget	-0.065**	-0.060*	-0.080**	0.168***	-0.049	-0.031	-0.002	0.063**	-0.053*	0.061*	0.176***	0.147***	0.175***	1

Note: Standard errors in parentheses, * p<.01, ** p<.005, *** p<.001

Table 3 Regression Results

	Model 1 Success	Model 2 Success	Model 3 Ln_pledge	Model 4 Ln_pledge	Model 5 Success	Model 6 Ln_pledge
Like	0.898***					
	(0.178)					
Support		0.650***				
		(0.177)				
Ln_likenum			0.328***			
			(0.027)			
Ln_supportnum				0.428***		
				(0.077)		
Guanxi					2.018***	
					(0.296)	
Guanxi_intensity						1.224***
						(0.277)
Video	1.632***	1.661***	0.513***	0.628***	1.709***	0.638***
	(0.186)	(0.183)	(0.115)	(0.121)	(0.188)	(0.122)
Ln_picture	0.406***	0.415***	0.195***	0.242***	0.427***	0.235***
	(0.101)	(0.101)	(0.054)	(0.058)	(0.103)	(0.059)
Ln_wordcount	0.185	0.189*	0.123**	0.149***	0.216**	0.159***
	(0.072)	(0.069)	(0.043)	(0.044)	(0.073)	(0.044)
Ln_update	0.516***	0.366**	0.470***	0.394***	-0.069	0.350***
	(0.125)	(0.124)	(0.065)	(0.07)	(0.141)	(0.073)
Ln_fans	0.917***	0.966***	0.709***	0.840***	0.894***	0.795***
	(0.088)	(0.09)	(0.052)	(0.055)	(0.09)	(0.055)
Ln_duration	-1.067***	-1.050***	-0.554***	-0.643***	-1.053***	-0.671***
	(0.162)	(0.162)	(0.073)	(0.079)	(0.161)	(0.079)
Perks	0.072	0.058	-0.008	-0.013	0.074	-0.007
	(0.05)	(0.045)	(0.023)	(0.024)	(0.048)	(0.024)
Ln_traget	-0.400***	-0.398***	0.419***	0.501***	-0.359***	0.500***
	(0.07)	(0.069)	(0.044)	(0.046)	(0.069)	(0.047)
Cons	-0.291	-0.204	0.635	-0.146	-0.268	0.215
	(0.941)	(0.922)	(0.506)	(0.542)	(0.919)	(0.547)
Category FE	YES	YES	YES	YES	YES	YES
Month FE	YES	YES	YES	YES	YES	YES
Location FE	YES	YES	YES	YES	YES	YES
Observations	989	989	989	989	989	989
Pr2	0.387	0.379			0.401	
r2			0.571	0.524		0.517
F			148.119	123.211		116.12

Note: Standard errors in parentheses, * p<.01, ** p<.005, *** p<.001

Table 4 Robustness Check

	Model 7 Ln_fundrate	Model 8 Ln_fundrate	Model 9 Ln_fundrate	Model 10 Ln_fundrate	Model 11 Ln_fundrate	Model 12 Ln_fundrate
Like	0.395***					
	(0.087)					
Support		0.457***				
		(0.089)				
Ln_likenum			0.669***			
			(0.107)			
Ln_supportnum				0.286***		
				(0.023)		
Guanxi					0.373***	
					(0.066)	
Guanxi_intensity						1.251***
						(0.24)
Video	0.604***	0.626***	0.622***	0.537***	0.637***	0.649***
	(0.1)	(0.1)	(0.099)	(0.093)	(0.1)	(0.099)
Ln_picture	0.212***	0.224***	0.220***	0.182***	0.222***	0.216***
	(0.049)	(0.05)	(0.05)	(0.045)	(0.05)	(0.05)
Ln_wordcount	0.116**	0.112**	0.126***	0.092*	0.115**	0.123***
	(0.035)	(0.035)	(0.035)	(0.034)	(0.035)	(0.035)
Ln_update	0.446***	0.371***	0.231***	0.426***	0.360***	0.305***
	(0.058)	(0.06)	(0.066)	(0.055)	(0.06)	(0.061)
Ln_fans	0.628***	0.662***	0.623***	0.552***	0.667***	0.623***
	(0.04)	(0.041)	(0.04)	(0.039)	(0.041)	(0.041)
Ln_duration	-0.556***	-0.549***	-0.569***	-0.462***	-0.539***	-0.562***
	(0.066)	(0.065)	(0.065)	(0.061)	(0.066)	(0.066)
Perks	-0.004	-0.012	-0.001	-0.004	-0.009	-0.004
	(0.021)	(0.021)	(0.021)	(0.02)	(0.021)	(0.021)
Ln_traget	-0.384***	-0.385***	-0.374***	-0.454***	-0.383***	-0.382***
	(0.035)	(0.035)	(0.036)	(0.032)	(0.035)	(0.036)
Cons	-0.245	-0.276	-0.119	0.322	-0.358	-0.054
	(0.462)	(0.456)	(0.456)	(0.424)	(0.454)	(0.458)
Category FE	YES	YES	YES	YES	YES	YES
Month FE	YES	YES	YES	YES	YES	YES
Location FE	YES	YES	YES	YES	YES	YES
Observations	989	989	989	989	989	989
r2	0.5	0.504	0.503	0.561	0.506	0.5
F	121.612	124.936	131.361	164.217	125.463	118.948

Note: Standard errors in parentheses, * p<.01, ** p<.005, *** p<.001