Exploring the Interplay of Topic Discussion, Follower Engagement, and Crowd Funding Performance: A Mediation Analysis

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Abstract

The aim of this paper is to investigate the mediating effect of the number of project followers and project discussions on the success of reward-based crowdfunding. In Internet product crowdfunding, sponsors usually use social media, including the product crowdfunding platform itself and third-party social media such as Weibo and WeChat. Product crowdfunding platforms, Weibo and WeChat attract different groups of people. The ultimate impact on product crowdfunding may also be different. In order to test the impact of social media on the fundraising level of Internet product crowdfunding projects, this chapter chooses JingDong (JD) crowdfunding platform as the research object. In addition, the number of people following crowdfunding projects and the number of topics discussed may have a mediating effect. With the help of "HouYi" data acquisition software, the daily dynamic data of each crowdfunding project was collected. The panel database of the crowdfunding process was formed by collecting the data of all 457 crowdfunding projects on the Modian crowdfunding platform within 3 months. OLS multiple regression analysis was used to detect the data of the influence of each independent variable on the dependent variable. The test shows that both the professional JD crowdfunding platform and the communication and promotion of third-party social media Weibo and WeChat can significantly exert a significant positive impact on the fundraising level of product crowdfunding projects, and this positive impact is achieved by influencing the number of followers and topic discussions of crowdfunding projects on JD crowdfunding platform. In other words, the number of followers and the number of topic discussions of crowdfunding projects have a significant mediating effect.

Keywords

Crowdfunding, Platform, Discussion Topics, Crowdfunding Projects

1. Introduction

In recent years, crowdfunding has become an alternative source of external funding (Zaid et al., 2022) for a project that has a profit or non-profit orientation (Kabylka et al., 2018) in various countries. Crowdfunding has been growing until now because the number of successful crowdfunding projects is increasing (Byrnes et al., 2014). Besides, among the various types of crowdfunding, reward-based crowdfunding is one of the most widely used by project owners and backers (Belleflamme & Lambert, 2014). In order to achieve a successful product crowdfunding campaign, the sponsors of a crowdfunding project have to spread, disseminate and recommend the project to potential supporters through various means. One of the most important means of communication is social media (Rose et al., 2021).

Product crowdfunding platforms as a distribution channel (Panjwani & Xiong, 2023) for product crowdfunding campaigns, not only take on the function of crowdfunding (Borrero-Domínguez et al., 2020) but also the role of social media. The product crowdfunding platform's home page recommendations, social media interaction between backers and sponsors, and alerts of new projects. The product crowdfunding platform's homepage recommendations, social media interactions between backers and promoters (Sokolova & Perez, 2018), and alerts about new projects being launched and about to end, all have a significant impact on the final fundraising outcome. Therefore, product platforms need to play an active role (Kaminski & Hopp, 2020) in not only vetting and publishing crowdfunding projects, but also providing communication platform (Testa et al., 2019). In addition to reviewing and publishing crowdfunding projects, product crowdfunding platforms should also provide good channels for interaction between backers and promoters, and help Crowdfunder obtain more funding through reasonable home page recommendations.

The purpose of the paper is to provide an overview of reward-based crowdfunding projects and to investigate the impact of project-related social media activity on the crowdfunding performance of projects. And to verify the impact of social media on the final crowdfunding performance.

This article is organized as follows. Section 2 presents the literature on related work to the social media indicators of crowdfunding performance. Section 3 presents the methodology of the research. Section 4 highlights the obtained results. The article ends with a conclusion.

2. Literature Review and Theoretical Background

2.1. Social Medial Engagement Theory and Crowdfunding Performance

Social media engagement theory was built by Paul M & Molly in 2016. Experiences from social interaction and experiences from social interaction technology features. Social interaction is defined as a medium of communication between users through social networks (Foà, 2019). Social media is defined as "a

group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content". Social media is valuable because it not only satisfies the needs and interests of users, but also supports an interactive audience for advertising and market intelligence to an organization. That is to say, social media plays a major role in the scope of digital marketing. Digital marketing plays a more or less significant role in the overall marketing strategy depending on the nature of the business, its sector and its target audience. Over the years, there has been speculation as to which role social media marketing should play within a business's outward-facing presence. To better understand social media engagement, Voorveld et al. (2018) proposed social media engagement primarily consists of three things: engagement with your posts, engagement with your page as a whole, and engagement with direct messages. Every element contributes to determining total involvement (Zhang & Chen, 2019).

2.2. Social Media and Crowdfunding Performance

Directly related to the research topic of this paper is the research on social media and crowdfunding performance. In this paper, the third-party social media Weibo and WeChat are not only included in the discussion but also the Internet crowdfunding platform (Bukhari et al., 2020). The crowdfunding platforms regarded as social media and included in the analysis, and studied the intrinsic relationship between social media-based referral campaigns and product reward-based crowdfunding performances and found that crowdfunding performance are closely related to the characteristics of early promotions on social media rather than crowdfunding campaigns (e.g. crowdfunding target amounts and crowdfunding duration), and early promotions on social media can effectively predict the eventual success of crowdfunding projects. Kaura and Gerab (2017) examined 250 Italian product crowdfunding projects and found that the success of crowdfunding was strongly related to the use of Twitter social media for promotion. While Facebook's social media-based promotion had no significant impact on the success of product crowdfunding projects, the Twitter social media-based promotion had a significant impact (Kaura & Gerab, 2017). The research uses Eviews to analysis the factors influencing crowdfunding performance based on OLS multiple regression model. While some research has been made on the relationship between social media and the success or performance of fundraising, research based on crowdfunding of Chinese internet products has not yet been carried out. China's social media and its characteristics are different from those of Western countries, and as a result, the degree of influence on the success or performance of product crowdfunding may also be different. Generally, the social media in China are Weibo and WeChat. The social media in western countries rather than China are Facebook, Instagram Twitter, etc. Studies on the performance of crowdfunding based on western social media can be found in the literature. More importantly, existing research has locked social

media on third-party social media, ignoring the social functions of the product crowdfunding platform itself.

Willems investigated correlation of participation of creator in active blog and four social media variables namely Facebook-likes, Twitter-followers, Tweets, and Google hits on platform name on success (Gerab, 2017). He reported a weak correlation of success with these variables. Kerkhof analyzed the relationship of social networks such as number of Facebook friends (Wessel et al., 2016)/likes and social interactions (Hörisch, 2018) with the success of a crowdfunding campaign. The results suggested that there is no significant relationship between the social network size and the success of a crowdfunding campaign. The hidden connections (Bukhari et al., 2020) between the outcome of projects (Bukhari et al., 2020) on crowdfunding platforms and the corresponding promotion campaigns in social media. They found strong correlations between a crowdfunding project's early promotional activities and success and also learned the importance of concurrent promotion from multiple sources.

2.3. Topic Followers and Topic Discussion Numbers on Crowdfunding Performance

Based on the large database built by Zhao KunXia in 2020, this paper first makes a static test on whether and how different social media, including crowdfunding platforms and third-party social media, including Weibo and WeChat, affect the crowdfunding performance of crowdfunding projects. After inspection, found that regardless of whether they are professional crowdfunding platforms or third-party social media WeChat dissemination and promotion can significantly raise the project to raise the level of the product and have a significant positive influence and positive influence on both by influencing the JD the raise on the raised platform project and the theory of subject focus on the number of, in other words, the number of people following the crowdfunding project and the number of topics discussed have a significant mediating effect should be (Zhao 2020). Among all the social media variables, the crowdfunding project was discussed by the supporters of JD's crowdfunding platform for crowdfunding. The positive effect was the most obvious, even after controlling for the number of people following the crowdfunding project and the number of topics discussed in the case. Secondly, the chapter also as far as the relationship between social media and the raising capital level has carried on the dynamic test, and found that at any stage, during the raising of the raise program JD and Weibo and WeChat recommended only during the raise in the middle of the stage for the final the raising capital levels play a role. The authors who studied the influence of Facebook and Twitter activities on Indiegogo (all-or-nothing) project success and concluded that the peak of messages on Facebook is positively correlated to the number of supporters coming the next day (Yeh & Chen, 2022). Although, the authors also found that backers do not promote the supported projects further on social networks.

3. Methodology of the Study

In order to answer the research question, "Does the number of followers in the crowdfunding platform homepage have a mediating effect on the relationship between social media and crowdfunding performance?" the thesis will conduct a quantitative analysis into the features of online crowdfunding platforms. Quantitative research allows the analysis of large amounts of data, which in turn is necessary to determine the significance of potential success factors of crowdfunding platforms.

3.1. Research Hypotheses

Based on the above question the following hypotheses are formulated in this paper.

Mediating Role of Topic Followers and Topic Discussion Numbers on Crowdfunding Performance

Topic Discussion

In product-reward based crowdfunding, Ola Olsson (2023) analyzed that the overall effect does not vary depending on the topic of discussion. However, there is an interaction between the topic of discussion and entrepreneurial characteristics. Product-focused discussions seem to be more influential for early-stage businesses that have not yet generated sales. Entrepreneurs may act opportunistically and are incentivized to misrepresent their information in order to convince investors (Lins et al., 2018), making it even more challenging for investors to discern high from low quality ventures. Thus, endorsements by third-parties might provide an especially credible signal. Econometric results show that discussion usually drives investment. However, discussion of topics such as market risk and shareholder rights undermined the success of the fundraising (Volkmann1, 2019). The study highlights the complementary of discussion boards as a source of information for investors. However, in order to meet the research objectives, a knowledge discovery workflow was developed. The process is divided into four main sections: 1) Crawl the data and build the database; 2) Variable selection; 3) Data analysis consisting of data visualization, logistic regression and the mediating effect 4) as well as evaluating the data analysis to extract knowledge. The preceding discussion suggests that topic discussion could be more effective in influencing reward-based crowdfunding performance because investors are more likely to seek quality information to minimize investment risk and the likelihood of post investment regret. Hence, we hypothesized the following:

Hypothesis 1a: The number of topics discussion in crowdfunding projects has a mediating effect on crowdfunding performance.

Project Followers

First of all, gaining followers is a crucial motivation for a user's participation in participation in social networks in order to show their influence in the virtual en-

vironment (Yasar et al., 2022). Relationships between follower and follower establish social ties between them, so a user's number of followers can of followers can reflect a user's social resources and can be seen as an important signal of reputation, which may influence potential funders. potential funders. Research on investment and in the context of crowdfunding (Mollick, 2014) show that the number of followers positively influences consumers' investment decisions regarding product selection, which in turn influences financial outcomes. Based on these studies, we expect that reward-based crowdfunding performance with more followers (Zhang et al., 2017) tend to have better crowdfunding performance. leading to the hypothesis:

Hypothesis 1b: The number of topics followers in crowdfunding projects has a mediating effect on crowdfunding performance.

By referring to ZHAOKUNXIA's method (Zhao, 2020), she found that that the number of page referrals in Taobao crowdfunding has a positive correlation with crowdfunding efficiency. And the style of referrals on the JD crowdfunding platform is similar as Taobao crowdfunding platform. Therefore, the mediating effect test Equations (1), (2) and (3) are constructed in this study.

$$Con\ Final_i = \alpha_1 Hmpag\_if_i\ (or\ Upadates\_dum_i) + C + \mu_1 \qquad (1)$$

$$LnFocus = \beta_1 Hmpag\_if_i\ (or\ Upadates\_dum_i) + C + \mu_2 \qquad (2)$$

$$Con\_Final_i = \gamma_1 Hmpag\_if_i\ (or\ Upadates\_dum_i) \\ + \gamma_2 LnFocus + \gamma_3 Control + C + \mu_3 \qquad (3)$$

Whether a crowdfunding project is recommended by the Homepage of the crowdfunding platform ($Hmpag\_if_i$) and whether it is updated through an announcement ($Upadates\_dum_i$) will have an effect on the number of followers of the crowdfunding project ($LnFocus_i$) and ultimately affect the fundraising performance (Con_Final_i) of the crowdfunding project.

3.2. Data Base: Crawl the Data and Build the Database

The full database was downloaded from Web modian (https://www.modian.com) in China. Web modian gathers data from all ongoing projects on the modian crowdfunding platform. All the projects from the full modian database were selected by the data caputal sofyware "HOUYI" in three months. Removed the data that all cancelled and still in the progress of crowdfunding projects. After eliminating projects whose start and end dates of crowdfunding were not within this period, this paper obtained 457 product crowdfunding projects and used them as the research samples.

3.3. Variable Selection

After collected the data, the research obtained real-time data and characteristics of product crowdfunding projects. Variables have been constructed based on the social features of the modian crowdfunding platform. The variables definition and symbol can be seen in Table 1.

Table 1. Definition of all the variables.

Variable characteristics	Variable symbol	Definition
Dependent Variable	*Con_Finali*	*The crowdfunding level of crowdfunding project i is the ratio of the final investment commitment to the target amount of crowdfunding*
Independent Variables		
Variables about crowdfunding platforms	*Hmpag_ifi*	*Whether the crowd-funding project i is recommended on the homepage of the crowd-funding website. A dummy variable takes on values of either 0 or 1*
	Only_Hmpagi	*Is crowd-funding project i only recommended by the homepage of the crowdfunding website without any recommendation from Weibo or Wechat. A dummy variable takes on values of either 0 or 1.*
	LnHmpag$_i$	*The logarithm of the number of times the crowdfunding project i was recommended on the home page of the crowdfunding website*
	Upadat$_i$_dum$_i$	*Whether there is any announcement update for crowdfunding project i, A dummy variable takes on values of either 0 or 1.*
	LnUpdat$_{ii}$	*The logarithm of the number of announcements of crowdfunding project i*
	LnFocus$_i$	*The logarithm of the number of followers of crowdfunding project i*
	LnTopics$_i$	*The logarithm of the number of topics discussed for crowd-funding project i*
weibo and wechat variables	*SocialMedia_if$_i$*	*Is there any recommendation from Weibo or wechat for the crowd-funding project i? A dummy variable takes on values of either 0 or 1.*
	weibo_if$_i$	*Weibo_ if i crowdfunding project i is recommended on Weibo? A dummy variable takes on values of either 0 or 1.*
	Only_weibo$_i$	*Is crowd-funding project i recommended by Weibo but not by wechat? A dummy variable takes on values of either 0 or 1.*
weibo variables	*Lnweibo_Total$_i$*	*Logarithm of the total number of tweets recommended for crowdfunding project i*
	Lnweibo_comment$_i$	*Logarithm of the number of recommended micro-blog comments for crowdfunding project i*
	Lnweibo_reshare$_i$	*Logarithm of the forwarding number of recommended micro-blog of crowdfunding project i*
	Lnweibo_fans$_i$	*The logarithm of the number of microblog followers of the initiator of the crowdfunding project i*
	wechat_if$_i$	*Whether the crowdfunding project i is recommended by wechat? A dummy variable takes on values of either 0 or 1.*
wechat variables	*Only_wechat$_i$*	*Is crowd-funding project i recommended only by wechat but not by any Weibo? A dummy variable takes on values of either 0 or 1.*
	Lnwechat_Total$_i$	*Logarithm of the total number of wechat articles recommended for crowdfunding project i*
	Lnwechat_views$_i$	*Logarithm of reading number of wechat articles of crowd-funding project i*
	LnTargeti	*Logarithm of crowdfunding target amount of crowdfunding project i*
	LnTotal_Daysi	*Logarithm of crowdfunding duration of crowdfunding project i*
Characteristics of crowdfunding projects	*Videoi*	*Does the crowdfunding project i have a video introduction? A dummy variable takes on values of either 0 or 1*
	Brandi	Whether the crowdfunding project i has a clear brand = 1, otherwise = 0
	Patenti	Whether crowdfunding project i has patent or certificate proof A dummy variable takes on values of either 0 or 1
	Startupsi	Whether the initiator of crowdfunding project i is a newly established enterprise (within 3 years) A dummy variable takes on values of either 0 or 1

The variables include whether the crowdfunding project is recommended by Homepage (If_Hmpag_i), whether it is recommended by Homepage only ($Only\_Hmpag_i$), the number of times it is recommended by Homepage ($LnHmpag_i$), dummy variables for whether the crowdfunding project is announced for updates ($Updats\_dum_i$), how many times it updates announced ($LnUpdat_i$), and the number of people following the crowdfunding project ($LnFollow_i$) and the number of topics discussed ($LnDiscus_i$). In addition, variables are constructed to reflect the characteristics of the crowdfunding project, including the crowdfunding target amount ($LnTarget_i$), the duration of the crowdfunding ($LnTotal\_Days_i$), dummy variables with or without video introduction ($Video_i$), dummy variables with whether has a clear brand ($Brand_i$), dummy variables with whether there is a patent or certificate ($Patent_i$), and the presence of a start-up dummy ($Startups_i$).

Based on 457 research samples on modian crowdfunding platform selected above, this paper collected the information dissemination data of these product crowdfunding projects through Weibo and Wechat, two third-party social media. Specifically, in terms of Weibo data, this paper manually searches all Weibo related to a product's crowdfunding project and collects relevant data through three channels: "Baidu Weibo search", "sponsor's Weibo" and "modian crowdfunding platform's blog". Similarly, in terms of WeChat data, this paper conducts manual search and collects relevant data through three channels: "Baidu WeChat search", "sponsor WeChat public account", and "Baidu crowdfunding platform WeChat public account".

4. Result

4.1. Description Analysis of All the Variables

Among the 457 research samples collected from MODIAN crowdfunding platform in this study, there were 364 successful projects and 132 unsuccessful projects, and the percentage of successful projects was 79.65%. At the same time, there are 307 projects over-fund, that is the final crowdfunding amount over the target amount. The percentage of over-funded projects was 60.71%.

First of all, it is shown in Table 2 that no matter whether there are variables of the crowdfunding platform itself and variables reflecting the third-party social media of Weibo and WeChat, the number of followers and the number of topic discussions displayed on the modian crowdfunding platform, have a stable and significant positive impact on the performance of crowdfunding. Second, the significance of some variables such as w*hether there is any announcement update for crowdfunding projec* or whether they are recommended by crowdfunding platforms disappeared after adding the number of followers and topic discussions, meaning that the number of followers and topic discussions absorbed the effects of certain social variables.

4.2. Mediating Effect Test Results and Analysis

In Table 3 shows that regression coefficient α_1 significantly positive, so the rela-

tionship is significant positive between homepage and the crowdfunding performance. The regression coefficient β_1 in the table is significantly positive, indicating that the relationship between being recommended by the homepage and the number of followers is significantly positive. The regression coefficient γ_2 in the table is significantly positive, indicating that the relationship between the number of followers and crowdfunding performance is significantly positive, and the regression coefficient γ_1 is also significantly positive, indicating that the number of followers of crowdfunding projects has a partial mediating effect. The Sobel test value of whether it was recommended by the homepage and the number of followers was 8.563, that is, the mediating effect was significant, the mediating effect value was 1.0054, and the explicable part of the mediating effect was 47.23%. Therefore, whether the crowdfunding project is recommended by the homepage of the crowdfunding platform plays a positive role in promoting the performance of crowdfunding by positively influencing the number of people who follow the crowdfunding project. In the influence of whether the

Table 2. Regression statistics of social media and product crowdfunding fundraising levels.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
$Homepage\_if_i$			2.002***	0.983***			1.912***	0.957***
			(10.21)	(5.24)			(9.74)	(5.12)
$Upadates\_dum_i$			0.834***	−0.311			0.774***	−0.324
			(3.92)	(−1.48)			(3.64)	(−1.54)
$SocialMedia\_if_i$					1.122***	0.411*	0.774***	0.342
					(4.52)	(1.89)	(3.21)	(1.59)
$LnFocus_i$		1.041***	0.982***			1.021***		0.968***
		(9.32)	(8.81)			(9.09)		(8.65)
$LnTopics_i$		0.627***		0.577***		0.617***		0.571***
		(6.28)		(5.46)		(6.19)		(5.43)
$LnTarget_i$	−0.267*	−0.975***	−0.379**	−0.985***	−0.316**	−0.980***	−0.408***	0.990***
	(−1.70)	(−6.62)	(−2.51)	(−6.52)	(−2.05)	(−6.70)	(−2.74)	(−6.59)
$LnTotal\_Day_s$	1.521***	−0.108	1.143**	−0.024	1.456***	−0.102	1.121**	−0.018
	(2.80)	(−0.24)	(2.10)	(−0.05)	(2.68)	(−0.22)	(2.06)	(−0.04)
Videoi	0.409*	−0.129	0.281	−0.088	0.214	−0.190	0.155	−0.138
	(1.86)	(−0.68)	(1.34)	(−0.47)	(−1.03)	(0.99)	(−0.75)	(0.75)
$Brand_i$	0.479	−0.566	−0.697	−0.578	−0.668	−0.633*	−0.815*	−0.631*
	(−1.03)	(−1.48)	(−1.54)	(−1.52)	(−1.43)	(−1.65)	(−1.80)	(−1.66)
$Patent_i$	0.018	−0.232	−0.089	−0.245	0.016	−0.228	−0.085	−0.242
	(0.08)	(−1.23)	(−0.42)	(−1.31)	(0.07)	(−1.21)	(−0.40)	(−1.29)
Startupsi	−0.391*	−0.216	−0.385*	−0.227	−0.386*	−0.217	−0.382*	−0.227
	(−1.84)	(−1.20)	(−1.91)	(−1.28)	(−1.83)	(−1.21)	(−1.91)	(−1.28)
N	457	457	457	457	457	457	457	457
R^2	0.0302	0.3122	0.1320	0.3301	0.0524	0.3150	0.1423	0.3320

Note: ***, **, * denote significance levels of 1%, 5%, and 10%, respectively; values in parentheses are t-values and are corrected for heteroskedasticity Test robustness correction.

Table 3. Test results of the mediating effect of the number of followers.

	(1) Con_Final	(2) LnFocus	(3) Con_Final	(4) Con_Final	(5) LnFocus	(6) Con_Final	(7) Con_Final	(8) LnFocus	(9) Con_Final
$Hmpag\_if_i$	2.129*** (9.93)	0.754*** (10.10)	1.123*** (5.62)						
$Upadates\_dum_i$				1.229*** (4.85)	0.798*** (9.31)	0.0537 (0.23)			
$SocialMedia\_if_i$							1.122*** (4.71)	0.452*** (5.47)	0.468** (2.24)
$LnFocus_i$			1.334*** (16.15)			1.473*** (17.67)			1.447*** (17.90)
$LnTotal\_Days_i$	1.322** (4.03)	0.973*** (8.53)	0.024 (0.08)	1.239** (3.60)	0.861*** (7.39)	−0.029 (−0.09)	1.456*** (4.28)	1.018*** (8.62)	−0.016 (−0.05)
$Video_i$	0.360* (1.69)	0.368*** (4.98)	−0.132 (−0.69)	0.289 (1.30)	0.308*** (4.11)	−0.165 (−0.85)	0.214 (0.95)	0.307*** (3.94)	−0.231 (−1.18)
$Brand_i$	−0.600 (−1.59)	0.029 (0.22)	−0.639* (−1.90)	−0.632 (−1.60)	−0.028 (−0.21)	−0.592* (−1.73)	−0.668 (−1.69)	0.004 (−0.03)	−0.662* (−1.94)
$Patent_i$	−0.068 (−0.31)	0.107 (1.41)	−0.211 (−1.09)	−0.021 (−0.09)	0.112 (1.47)	−0.186 (−0.95)	0.016 (0.07)	0.137* (1.74)	−0.182 (−0.93)
$Startups_i$	−0.388* (−1.87)	−0.095 (−1.31)	−0.262 (−1.43)	−0.387* (−1.80)	−0.093 (−1.28)	−0.250 (−1.34)	−0.386* (−1.83)	−0.094 (−1.25)	−0.250 (−1.35)
N	457	457	457	457	457	457	457	457	457
R^2	0.1149	0.2660	0.3061	0.0545	0.2653	0.2798	0.0990	0.2098	0.2909
Sobel test (Z)		8.5631 > 1.96			8.239 > 1.96			5.227 > 1.96	
The mediation effect		1.0054			1.1754			0.6536	

Note: ***, ** and * respectively indicate the significance level of 1%, 5% and 10%; The values in parentheses are T-values and have been modified for White heteroscedasticity robustness.

crowdfunding project has weibo or wechat recommendation on the performance of crowdfunding, the number of people who follow the crowdfunding project has a significant partial mediating effect.

The results of mediating effect test for the number of topics discussed in crowdfunding projects can be shown in Table 4. As can be seen from the table, among the influence of the crowdfunding performance of crowdfunding projects, the number of topics discussed in crowdfunding projects has a significant partial mediating effect. Second, the number of topic discussions has a significant complete mediating effect on whether the crowdfunding project announcement update has an effect on the crowdfunding performance. Third, the number of topic discussions has a significant partial mediating effect on whether the crowdfunding project has a recommendation on Weibo or WeChat. The number of topic discussions has a significant partial mediating effect. Therefore, even if the number of topic discussions is controlled, the presence or absence of WeChat or Weibo still has a significant positive impact on the performance of crowdfunding, but the degree of significance is weakened.

The statistical results in Table 3 and Table 4 show that the number of followers

Table 4. Test results of the mediating effect of the number of topics discussed.

	(1) Con_Final	(2) LnTopics	(3) Con_Final	(4) Con_Final	(5) LnTopics	(6) Con_Final	(7) Con_Final	(8) LnTopics	(9) Con_Final
$Homepage\_if_i$	2.129*** (9.93)	0.785*** (10.52)	1.196*** (5.80)						
$Upadates\_dum_i$				1.229*** (4.85)	0.976*** (11.61)	−0.0985 (−0.41)			
$SocialMedia\_if_i$							1.122*** (4.71)	0.405*** (4.87)	0.590*** (2.76)
$LnFocus_i$			1.189*** (13.99)			1.361*** (15.56)			1.313*** (15.91)
$LnTargeti$	−0.387** (−3.09)	0.364*** (8.35)	0.820*** (−6.94)	−0.266* (−2.06)	0.409*** (9.54)	0.822*** (−6.80)	−0.316** (−2.43)	0.390*** (8.60)	−0.829*** (−6.91)
$LnTotal\_Daysi$	1.322** (4.03)	0.792*** (6.95)	0.380 (1.24)	1.239** (3.60)	0.642*** (5.62)	0.366 (1.17)	1.456*** (4.28)	0.842*** (7.08)	0.351 (1.13)
$Videoi$	0.360* (1.69)	0.199*** (2.69)	0.123 (0.63)	0.289 (1.30)	0.122* (1.66)	0.123 (0.62)	0.214 (0.95)	0.147* (1.87)	0.021 (0.11)
$Brand_i$	−0.600 (−1.59)	−0.026 (−0.20)	−0.569* (−1.65)	−0.632 (−1.60)	−0.103 (−0.79)	−0.492 (−1.40)	−0.668 (−1.69)	−0.050 (−0.36)	−0.603* (−1.72)
$Patent_i$	−0.068 (−0.31)	0.139* (1.84)	−0.234 (−1.18)	−0.021 (−0.09)	0.140* (1.87)	−0.212 (−1.05)	0.016 (0.07)	0.170** (2.16)	−0.208 (−1.03)
$Startups_i$	−0.388* (−1.20)	−0.120 (−1.66)*	−0.245 (−1.87)	−0.387* (−1.30)	−0.117* (−1.80)	−0.227 (−1.65)	−0.386* (−1.18)	−0.119 (−1.83)	−0.230 (−1.58)
N	457	457	457	457	457	457	457	457	457
R²	0.1150	0.2309	0.2657	0.0536	0.2479	0.2398	0.0893	0.1682	0.2858
Sobel test (Z)		8.409 > 1.96			9.304 > 1.96			4.655 > 1.96	
The mediation effect		0.9326			1.3276			0.5317	

Note: ***, ** and * respectively indicate the significance level of 1%, 5% and 10%; The values in parentheses are T-values and have been modified for White heteroscedasticity robustness.

and the number of topic discussions of the crowdfunding project are the mediating effect variables for the influence of social media including modian crowdfunding platform, Weibo and WeChat on the fundraising level of the crowdfunding project. This means that the homepage recommendation of modian crowd-funding platform, the announcement update of crowdfunding project, and the recommendation of Weibo or WeChat social media all have an effect on the performance of crowd-funding through influencing the number of followers and topic discussions of the crowd-funding project.

5. Conclusion and Discussion

In terms of product crowdfunding, the product crowdfunding platform itself and third-party social media, including Weibo and WeChat, can spread and promote product crowdfunding. This study found that social media (Ciro Troise1, 2020; Crosetto & Regner, 2018; Golić, 2014; Junge et al., 2021; Kshetri, 2018; Wessel et

al., 2016; Roma et al., 2021; Petitjean, 2018; Sahaym et al., 2021; Songa et al., 2019; Tosatto et al., 2022) play a very important role in the fundraising effect of Internet product crowdfunding. If a crowdfunding project is recommended by the home page of the product crowdfunding platform and updated by the announcement of the project, promoted by the Weibo of the crowdfunding promoter and recommended by the official Weibo of the product crowdfunding platform, or promoted by the WeChat of the crowdfunding promoter and recommended by the official WeChat account of the product crowdfunding platform, the level of crowdfunding can be significantly improved. The product crowdfunding platform has the largest positive influence, followed by Weibo and WeChat. Among all the social media variables, the homepage recommendation of the product crowdfunding platform is the most important factor that determines the level of crowdfunding.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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