THE ROLE OF SOCIAL MEDIA IN EQUITY-BASED CROWDFUNDING IN CHINA: AN EMPIRICAL ANALYSIS BASED ON SIGNALLING THEORY

XIAOLIN LI

Student No. 4597224

Thesis submitted in fulfilment of the requirements for the degree of Doctor of Philosophy

Institute for Sustainable Industries and Liveable Cities (ISILC)

College of Law and Justice

Victoria University

Melbourne, Victoria

February 2022

(….. Page intentionally blank …..)

ABSTRACT

Crowdfunding is an internet-based fund-raising tool. It brings together people who are seeking financial support from individuals or groups to launch new firms with funders who contribute a small amount each to the venture. As disruptive technology is a prevailing feature of the current digital era, crowdfunding has attracted substantial attention from academics, industry, and the public since its emergence. In the academic context, the debate of crowdfunding from scholars is principally revolved around the factors that impact the performance of crowdfunding. In all these identified factors, social capital, human capital, and intellectual capital have been highlighted by many as high value research and been recognized as positive signals to the equity crowdfunding performance in a signalling theory perspective in the relevantly mature western equity crowdfunding market. In addition, scholars have recognized the important role of social media in equity crowdfunding, since this unique online fundraising tool's characteristic makes social media the only pathway for crowdfunding entrepreneurs, platforms, and investors to communicate with each other.

While the related research is substantial in literature focusing on advanced economies, empirical evidence on the emerging Chinese equity crowdfunding industry is scarce. This study sought to filling in the gap by analyzing the determination of the equity crowdfunding performance in Chinese market, particularly the impacts of determinants on equity crowdfunds' performance in terms of funding amount, funding speed, funding campaign completion time, and annual yield. The research adopts the theoretical framework developed by Ahlers, Cumming, Guenther, and Schweizer (2015), which consists of Social Capital, Human Capital and Intellectual Capital, to identify and analyse how effective signals are to the attraction of funds through social media in equity crowdfunding. The research question is: Does social media have, if any, impacts on the investors' decisions in and the performance of crowdfunding projects?

This project takes a quantitative research method, collects data from the leading Chinese equity-based crowdfunding platform 'Colourful Investing', and analyses the data employing multiple linear regression models in SPSS. Our sample includes one hundred and fifty-eight projects which have been hand-collected from the platform. The results confirm the signalling effect of equity crowdfunding entrepreneurs business education experience on the equity crowdfunding success, identifying that the promotion activity on social media by equity crowdfunding entrepreneurs and platform has a significant impact on the performance of

equity crowdfunds, particularly the speed of equity crowdfunding campaigns and the annual yield rate of the equity crowdfunding campaigns. Besides, this result confirms the equity crowdfunding entrepreneur's role of being a member of branded chain business on the campaign's success. This study further compares the current regulations on equity crowdfunding in China and the corresponding laws and regulations in the western world and developed recommendations for policy and legal reforms in the future.

The research findings answered the research question that:

i. the social capital and human capital serve as positive signals in the Chinese equity crowdfunding market.

ii. the promotion activity on social media platforms positively moderates the relationship between startup's social capital and human capital and funding performance.

iii. intellectual capital is not a statistically significant determinant of the Chinese equity crowdfunding market which is different from that in mature western equity crowdfunding market.

iv. Furthermore, the findings suggest that the immaturity of equity crowdfunding market in China is due to the current ambitious legislation and policy situation. Hereby, policy implications are that the policy makers should pay attention on clarifying the disclosure obligations of financiers, setting reasonable threshold access for entrepreneurs, enhancing project management of the equity crowdfunding platform and the supervision of the platform.

This study establishes empirical evidence of Social Media's moderating effect on the performance of Equity Crowdfunding in China. The research fills in a gap relates to the absence of empirical research on the social media's impact on equity-based crowdfunding performance in China. This is one of the first few studies to find that the founders' experience of working in a branded Chain business improves the crowdfunding performance, which has not been stated by the existing equity crowdfunding discipline research and could be considered as a unique signal of equity crowdfunding performance under the nascent and unregulated Chinese equity crowdfunding industry It provides new insights into understanding the new-emerging equity crowdfunding industry in China in a signalling perspective with statistical evidence based on an empirical model. The study combines the views of both investors' decision- making behaviour and entrepreneurs' fundraising techniques which may serve as a basis for future research on the Equity Crowdfunding regulations in China.

Student Declaration

"I, Xiaolin LI, declare that the PhD thesis entitled THE ROLE OF SOCIAL MEDIA IN EQUITY-BASED CROWDFUNDING IN CHINA: AN EMPIRICAL ANALYSIS BASED ON SIGNALLING THEORY is no more than 80,000 words in length including quotes and exclusive of tables, figures, appendices, bibliography, references and footnotes. This thesis contains no material that has been submitted previously, in whole or in part, for the award of any other academic degree or diploma. Except where otherwise indicated, this thesis is my own work."

"I have conducted my research in alignment with the Australian Code for the Responsible Conduct of Research and Victoria University's Higher Degree by Research Policy and Procedures."

Signature: 

Date: 25/02/2022

Dedication and Acknowledgements

The past four years have been a trial of scaling the heights I have never reached in my life; from time to time, I have those precious people who are climbing together with me during this wonderful long journey.

I would like to acknowledge my most sincere appreciation to Dr Yongqiang Li, my principal supervisor, for his dedicated guidance, expertise, support and understanding, which contributed much more than I can express to my PhD journey.

I would also extend my thank and gratitude to the associate-supervisor, Professor Dr Haiqiao Wang, and additional associate supervisor Professor Dr Michael De Martinis. I am also grateful to all my peers and colleagues at Victoria University, many thanks for all their assistance and support.

I wish to thank my family for their love and support. With their encouragement and tolerance, I started the academic challenge, and their support sustained me till I finally reached the end of the research journey. Special thanks to the family member Mulan, my most adorable baby cat who always comforted me day and night during the 4 years' time depart from my family.

Table of Contents

List of Tables

List of Abbreviations

Abbreviation	Description
APRA	**Australian Prudential Regulation Authority**
ASIC	**Australian Securities and Investments Commission**
ASSOB	**Australian Small Scale Offerings Board**
BnB	**Bed-and-breakfast**
CSRC	**China Securities Regulatory Commission**
FCA	**Financial Conduct Authority (FCA)**
GFM	**GoFundMe (a medical crowdfunding platform)**
JOBS ACT	**Jumpstart Our Business Act**
IPO	**Initial Public Offerings**
MLR	**Multiple Linear Regression**
P2P	**Peer-to-peer Lending**
SME	**Small and Medium Enterprises**
SEC	**Securities and Exchange Commission**

CHAPTER 1: INTRODUCTION

1.1 Research context

Small and medium-sized enterprises (SMEs) are the backbone of any economy. The rapid growth in such businesses has been accompanied by a growing demand for funding capital. However, as most SMEs do not have a credit history it precludes them from accessing conventional banking and finance services. Nor have these businesses the capacity to pay the often prohibitive interest rates (O'Toole, Lawless, & Lambert, 2015). Moreover, with the 2008 world financial crisis that almost ceased all bank credit, venture capital also decreased significantly. Thus, start-ups have had great difficulty getting access to financial support, especially via open sources online. At the same time, public investors with small investment capacity represent an opportunity during early-stage investment activities.

Online crowdfunding from the general public via the internet presents an alternate approach for SMEs and start-ups to solve their financial plight (Hagedorn & Pinkwart, 2016). Known by the term equity crowdfunding, a part of the capital markets, it is an interest free online offering of private company securities to a group of people for investment that allows an idea to get off the ground. In terms of equity-based crowdfunding, while scholars focus on the factors impacting on the performance of equity-based crowdfunding, signalling theory has also been highlighted by the researchers to address the question. Signalling or the action of generating signals, such as dividend payout, can help with decision-making by demonstrating capability and potential. From the signalling theory perspective, scholars have identified key insights on equity crowdfunding, there are a few signals taken into consideration which can impact on equity crowdfunding efforts. These include, geography (Hornuf & Neuenkirch, 2017; Ralcheva & Roosenboom, 2016), early investment from backers (Vismara, Davide, & Federica, 2017), the management team (Ahlers et al., 2015), target size (Hornuf & Neuenkirch, 2017; Ralcheva & Roosenboom, 2016), campaign duration (Ahlers et al., 2015; Vismara et al., 2017) and investor numbers (Ahlers et al., 2015; Ralcheva & Roosenboom, 2016).

As academics explore the dynamics of equity crowdfunding, a focus only on the phenomenon itself is not sufficient. Rather, as crowdfunding is a product of the age of the internet, social media arguably could be a dominant pathway for entrepreneurs and investors to communicate and become the undeniable external factor on the success of crowdfunding (Borst, Moser, & Ferguson, 2018; Koçer, 2015; Mollick, 2014). Many studies have tested the significance of entrepreneur's activity on social media of their crowdfunding campaign, most of the studies

(Bushong, Cleveland, & Cox, 2018; J. Li, Chen, Kotha, & Fisher, 2017; Paulus & Roberts, 2018) come out with positive result while there is still a few scholars (Wessel, Thies, & Benlian, 2016; H. C. Zheng, Hung, Qi, & Xu, 2016) holding the negative opinion. However, most of the existing related studies are establishing evidence under the reward-based or donation based crowdfunding contexts, very few studies have focused on investigating social media's impact on the equity crowdfunding success, although many previous studies (J. Block, Hornuf, & Moritz, 2018; Estrin, Gozman, & Khavul, 2018) pointed out this direction for future researchers.

In this chapter, we will clarify the research problem, identify the aim, and subordinate objectives of the research project, discuss the potential contribution to knowledge and scope of the study, as well as list the critical terms and the central structure of the thesis.

1.2 Research problem

With the increasing popularity of crowdfunding in the financial world, scholars have shown growing interest accordingly. Since crowdfunding originated in the United States and is most developed in Europe and America, the research of the discipline is also extensive and numerous in those areas. Research on equity-based crowdfunding in other countries started earlier than in China (X. Li, 2019; L. Lin, 2017). McKenny et al. (2017) reviewed previous studies on crowdfunding and proposed that cross-discipline work should be the approach that has high potential research value and will meet the theoretical inquiry of the industry in the future years. As entrepreneurs generally broadcast crowdfunding appeals to potential investors using an online narrative (Moysidou & Hausberg, 2020; Wolfe, Patel, & Manikas, 2021), among the recent equity crowdfunding research, it is evident that scholars start to recognize the these narratives use a variety of social media to facilitate investment as a new emerged research proposition, focusing on the theories of communication information processing and explain how the content presented and social media users interact to influence crowdfunding outcomes(C. Jiang, Han, & Xu, 2021; Kaminski & Hopp, 2020; Popescul, Radu, Păvăloaia, & Georgescu, 2020) as well as exploring the approaches more successful than others under different circumstances on the dynamics of crowdfunding(Huang, O'uyang, Huang, Yang, & Lin, 2021; Kaminski & Hopp, 2020). It is believed that it is the industry's appeal to disclose the connections between social media and crowdfunding performances, which is also a new territory in the financial and legislation areas.

Based on the above, we conclude the research problem is to illustrate the evidence that whether social media has a moderating impact on the performance of equity crowdfunding campaigns.

Moreover, which signals as reflected by social media activities play a significant role in the results of equity crowdfunding, and are there any other signals effects on equity crowdfunding that have not been found previously? That aside, based on the analysis of data, how much of the research questions can be answered. Moreover, how can we read the results given the current China's economic and financial context and what does a critical discussion of the domestic laws and regulations, compared with the international legislation, offer for policy in relation to equity crowdfunding in the country.

1.3 Aim of the research project

This project is an empirical study to explore the moderating impact of social media on the equity crowdfunding performance in a signalling perspective under the Chinese basic-level market context. Since venture quality is the determinant factor of a firm's performance (Baum & Silverman, 2004), existing literature recognize the signals indicate venture quality by social capital (Buttice, Colombo, & Wright, 2017), human capital (Piva & Rossi-Lamastra, 2018) and intellectual capital (Troise, Matricano, Sorrentino, & Candelo, 2020) impact on the performance of equity crowdfunding. Based on the empirical model build up by Ahlers et al. (2015), this study also investigates the signalling impact of social capital, human capital and intellectual capital on the current China's equity crowdfunding industry and how social media activity moderates these signalling impacts as a dominant pathway to deliver the signals (Sahaym, Datta, & Brooks, 2021) under the basic-level market and the context of lacking supporting laws and regulations in current China. The research result proposes theoretical evidence for both the investors, entrepreneurs, and policy makers to maintain the stability of the equity crowdfunding market, to guide policy and future legislation of equity crowdfunding in China. The study intends to examine whether social media activities are significant to the results of equity crowdfunding, especially if the signals are central to the success of crowdfunding campaigns.

There are 5 specific research objectives (RO) for the project:

- **RO1:** Verify the social media's moderating effect don the equity crowdfunding under the current China's economic environment
- **RO2:** Summarize the theories which have been tested by other researcher on the crowdfunding studies, review the empirical studies of signalling theory adopted by researchers

- **RO3:** Explore the application of signalling theory on the equity crowdfunding entrepreneurs' activities on the social media platform for the better results of their campaigns
- **RO4:** Identify the effective signals indicate the success of equity crowdfunding, particularly the ones not identified previously by literature
- **RO5:** Develop empirical evidence for the implementation of equity crowdfunding legislation and regulation in China.

1.4 Contribution to knowledge

1.4.1 Theoretical contribution

This project will seek to contribute to the theoretical debate by establishing an evidence base to analyse the moderating effect of social media on performance of equity-based crowdfunding. Little is known in the literature about the role of social media in raising funds in equity crowdfunding, though social media (via pitches online) is the only venue for entrepreneurs to source additional funding. To test the theoretical basis of the study, the research uses Ahlers et al. (2015) 's framework, implicating the Social Capital, Human Capital and Intellectual Capital to explore the effective signals to attract more funds through social media in equity crowdfunding. It will enrich state of the art about both crowdfunding and Signalling Theory; it would like to set theoretical support of how laws and regulations could be developed to protect equity crowdfunding for both investors and entrepreneurs, gives professional advice in the legislation of crowdfunding in Internet law, helps the government to guide the user of social media in the financial area.

1.4.2 Empirical contribution

The study is the first few studies focus on the social media's impact on the Chinese basic-level equity crowdfunding market. Based on the data analysis outcome confirms the signalling effect of human capital and social capital in Chinese equity crowdfunding context, raises up the significance of star-up's affiliation of a chain brand as a newly identified signal of the equity crowdfunding success. The study includes the social media activity of the equity crowdfunding platform at the very first time to add on the entrepreneurs at a whole, the observation finds the signal effect of social media on the Chinese based equity crowdfunding, and further confirms the moderating effect of social media activity on the equity crowdfunding result, particularly on the signal transmission of social capital and human capital.

1.4.3 Practical contribution

This study benefits both investors, projectors and platform providers. It gives investors a deep insight into the industry and helps them to choose the more successful-likely projects. The study also examines how projects can use the research results to guide their communication with investors to increase the campaigns' success and how the platforms can take advantage of the convenience of the investors' information for better operation. Moreover, it will give professional advice to equity-crowdfunding projects and equity-crowdfunding platforms (in China) on how to take advantage of the Internet for the convenience of investors' information, offering a standardized and rationalized source online, and help the government guide the use of social media in the financial area, minimising the risks and increasing performances.

1.5 Scope of study

This study observes 158 successfully exited campaigns' result from equity crowdfunding platform "Colourful Invest". The observation focuses on the projects' fundraising results and the projects' promotion activity by both equity crowdfunding entrepreneurs and platform during the fundraising process. The preparatory work before launch of equity crowdfunding campaign is not within the scope of the work. The area of concern is what happened during the entrepreneurs' fundraising stage for investors when the entrepreneurs' submitted their project to the platform. The platform's investigating stage for the entrepreneurs is not under discussion. Since the Chinese crowdfunding industry is still in its initial stage (Bi, Liu, & Usman, 2017), the vacuum state in laws and regulations contributes to the special condition of Chinese crowdfunding industry. Therefore, the study compares the JOBS Act of the US and the crowdfunding regulations of China giving out specific suggestions combined with the research result to build a capable theoretical basis for current China to adjust the laws and regulations of crowdfunding. It is not intended to introduce other countries' statute laws in this study.

1.6 Definition of key terms

Table 1 provides a definition of the key terms, which are outlined as follows:

Table 1: Definition of key terms

Term	Definition
Equity crowdfunding	The investment mode that allows the start-ups to get external financial resources from the general public and repay the investors as equities of the project for their investments (Cumming & Hornuf, 2018)
Signal	The component that indicates unobserved information to fill in the information gap and reduce the information asymmetry
Campaign (project)	The activity posted on the equity crowdfunding platform with bids for each activity displayed with the investment plan, entrepreneur information and expected return on investment
Entrepreneur (projector, founder)	The members of the start-ups who seek external funds for their equity crowdfunding campaigns
Investor (backer, funder)	The people who invest in the equity crowdfunding campaigns with their assets
Colourful Invest platform (Duocaitou)	The observed online equity crowdfunding platform, "Duocaitou" is the original Chinese name of the platform.
Human Capital	The economic value of worker's experience and skills including education, training, skills and other employers perceived value (citation).
Social Capital	The networks of relationships among people who live and work in a particular society enable the society to function effectively (citation).
Weibo	The biggest portal, social media platform in China, for users to post microblog with articles, pictures, videos. Works on both computer and mobile terminals
WeChat	The communication tool with the most significant number of users in China, mainly works on mobile terminal

1.7 Structure of the thesis

This thesis is organised into seven chapters structured as below:

Chapter 1 introduces the background of the research, clarify the research questions, the aims of the study and the significance to the knowledge, also lists up the critical definitions for a better understanding of the study.

Chapter 2 reviews the previous literature on the definition of Crowdfunding, summarizes the major theories applied to equity crowdfunding, points out the gap of the theories and does a systematic review of the empirical evidence of signalling theory on equity crowdfunding. It

summarizes the existing debate on the social media's impact on crowdfunding performance. Also provides a critical review of the equity crowdfunding operational situation under the current legal environment in China, offers a comparison between the current Chinese temporary regulation and the JOBS Act in the US

Chapter 3 builds up the conceptual framework of the research, which is based on Ahlers et al. (2015) study and the signalling theory perspective. It also states the research questions of the study depend on the literature gaps.

Chapter 4 describes the research design of the study and states the methodology of the project. It establishes the overall research method, observed object, data collection approach, data structure and process, and dependent and independent variables. The research adopts a quantitative research method, analyses the data in SPSS software and processes the data through a multiple linear regression model.

Chapter 5 presents the results of the data analysis, includes the descriptive statistics, which has been analysed by the model and partially answered the research questions.

Chapter 6 outlines a comprehensive discussion of the research's results and provides more thinking by comparing the legislation and regulation of equity crowdfunding between the JOBS Act of the US and the Method Draft of China.

Chapter 7 concludes the findings and recommendations of the study. It also highlights the implication of this study for future research and practice, as well as the limitations of the thesis due to the current limited capacity.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

This chapter establishes the theoretical basis of the research, recognizes the nature and definition of Crowdfunding, reviews the major theories on equity crowdfunding studies and the current research understanding in the literature. In this chapter, Section 2.2 reviews the emergence of crowdfunding industry, defines the concepts and summarizes the major theories applied on prior research; Section 2.3 introduces the signalling theory and the identified signals of crowdfunding performance from empirical studies; Section 2.4 looks into the current status of equity-based crowdfunding in China, explains the operation mode and legal nature under the Chinese context, also includes the prevailing supervision mechanism of equity-based crowdfunding overseas; Section 2.5 reviews the legal research of equity-based crowdfunding both in domestic and international; Section 2.6 demonstrates the development dilemma of equity-based crowdfunding in current China; Section 2.7 illustrates the interactive relationship between social media and crowdfunding; in Section 2.8, we also list the previous empirical work using signalling theory in the context of equity crowdfunding research, figure out the gaps in the literature and point out the research direction of this study.

2.2 The emergence of Crowdfunding

Crowdfunding is not the first financial technique to fundraise small investment from the big crowd; the word "Crowdfunding" is the root of the earlier financing mode "Crowdsourcing"(Borst et al., 2018), which is an "online distributed problem-solving and production model" (Brabham, 2008) for individuals or organizations to acquire outsourcing from the public. Crowdfunding is an analogical definition extended specific in the economic context it is a new Internet-based fund-raising tool and brings together people who are seeking financial support from individuals or groups to launch new firms with funders who contribute a small amount each to the venture.

2.2.1 The definition of Crowdfunding

Schwienbacher and Larralde (2010) define Crowdfunding as "an open call" for the provision of financial resources, to gather either donation or in exchange of reward and/or voting rights "in order to support initiatives for specific purposes"(Schwienbacher & Larralde, 2010). It is believed that Schwienbacher and Larrade's work provides the first academic definition of "Crowdfunding" that describes the operation mode, basic form and function of this phenomenon.

In Mollick's (2014) study, he explained that the emergence of crowdfunding is derived from the existing concepts of 'micro-finance' and 'crowdsourcing' but got its new unique form in fundraising by involving an increasing number of Internet platforms. Mollick (2014) optimised the definition of crowdfunding based on Schwienbacher and Larrade's study (2010) and presented crowdfunding as a way that collects funds from the public to support enterprises or individual "by drawing on relatively small contributions from a relatively large number of individuals using the Internet, without standard intermediaries" (Mollick, 2014). Besides, Mollick (2014) tried to improve crowdfunding's definition by discussing both the goals of founders and funders, dressing the variables in the process of funds collecting process, to analyse how the mode of crowdfunding operates refer to many individuals raising crowdfunding for the social, cultural or for-profit venture, which filled the vacancy of previous research.

Meanwhile, some other researchers define 'crowdfunding' from the occasion that the investment takes place. De Buysere, Gajda, Kleverlaan, and Marom (2012) define crowdfunding as 'a collective effort of many individuals who network and pool their resources to support efforts initiated by other people or organizations […] usually […] via or with the help of the Internet'. Also, Wheat, Wang, Byrnes, and Ranganathan (2012) argued that crowdfunding was a 'new Internet-based method' for individuals to seek financial contributions for campaigns on 'specialized websites'. These researchers both highlight the critical effect of the Internet, which could be another unique characteristic of crowdfunding.

Generally speaking, there are three components in each crowdfunding project: the promoter, the investor and the platform (Lu, Xie, Kong, & Yu, 2014). The traditional financial approaches usually have only two roles. Here, the platform is somehow like an agency between funders and the projectors, although they may not know each other in person.

After the first crowdfunding platform, ArtistShare, was established in 2003 the industry grew up rapidly ever since. Now there are over 2,000 Crowdfunding platforms worldwide by the end of 2015, Kickstarter, the largest Crowdfunding platform in the world, has raised above $1.9 billion for the Crowdfunding projects on its platform (Beier & Waner, 2015). Those platforms operate various kinds of crowdfunding projects, whereas there are four dominant types commonly accepted by the industry: Donation-based crowdfunding, Rewards-based Crowdfunding, Equity-based crowdfunding, Peer-to-peer lending (Ahlers et al., 2015; Mollick, 2014). Since donation-based crowdfunding engages more in a charitable context, the other

three types are all based on a benefit-return mode. To make it more precisely, in those types of crowdfunding, the proposer launches a project on the crowdfunding platform to acquire a certain amount of money from the audiences in a fixed time period (Lu et al., 2014), the backers will get certain returns (products, profits, interests,) within specific time if the projects succeed. As most of the crowdfunding platforms follow the 'all or nothing' operation mode, which means if the projectors do not receive enough money in the pre-setting time zone, then the investments will go back to the backers' accounts(Lu et al., 2014). Thus, time-constrained is a unique characteristic of crowdfunding compared to the classic fundraising tools.

In conclusion, there are three significant characteristics of this new emerging financing mode that different from the traditional fundraising tool:

a. The number of investors is much greater, and the Crowdfunder's are less experienced and unsophisticated. Since the Crowdfunding platform provides the public access to the crowd who are willing to invest and the amount of investment is relatively small, it requires a lot more people to contribute to reaching the fundraising goal. It is not necessary to be experienced or endorsed by the third party to participate in the Crowdfunding projects thus the 'crowd' of crowd funders are generally unsophisticated with investing (Ahlers et al., 2015).

b. Investors' aims of investment are also ambiguous and full of uncertainties. As Crowdfunding has its various approaches (e.g., Donation, Rewards, Lending-based and Equity Crowdfunding) in fundraising, the motivations of backers are not as clear as traditional financing. Similarly, the open-accessed platform and small amount required breaks through the geographical boundaries and attracts investors from different backgrounds, the aims of their investment grow more obscure (Cholakova & Clarysse, 2015). Therefore, exploring the underlined signals that motivate potential backers to invest in the campaigns becomes a more critical question to the entrepreneurs.

c. The investment behaviour is often Internet-linked. Crowdfunding's most district difference from the classic fund-collecting methods is the use of the Internet during the fundraising process, Crowdfunding usually takes place online, both in specialized Crowdfunding platforms and Social Media platforms (e.g. Facebook, Twitter and Instagram) (Usman, Bukhari, Usman, Badulescu, & Sial, 2019).

2.2.2 The major theories applied to Crowdfunding research

Notwithstanding, crowdfunding is a novel phenomenon in the finance and business industry, it has already attracted researchers' interests in the related disciplines. According to Pichler and Tezze (2016), the existing literature regarding crowdfunding research can be divided into two general groups: theoretical analysis and empirical studies. While the theoretical group focuses more on the determinants of projectors' selections of the crowdfunding types, those empirical studies usually being chosen to analyse the driving factors of crowdfunding , either using collected data from the individual or group of platforms (Calic & Mosakowski, 2016; Hildebrand, Puri, & Rocholld, 2017; Mollick, 2014) or using the crowdfunding practices(Lambert & Schwienbacher, 2010). The majority of the studies investigating in the driving factors of the campaign's success, chooses a specific platform or several platforms belong to the same country or area as their study object, since the data collecting from the operating platforms provide a direct reflection of the phenomenon and easier for the researchers to analyse (Pichler & Tezze, 2016).

Despite constantly exploring the factors to lower the interest rate(Hildebrand et al., 2017; Wei & Lin, 2017) and increasing the creditworthiness of the projects(Sonenshein, Herzenstein, & Dholakia, 2011; J. Zhang & Liu, 2012), more and more researchers have put their attention on searching the approaches to motivate lenders and try to see the Peer-to-peer lending from an investors perspective. It has been found there are various factors that influence investors' decision to participate in a P2P project; it is indicated that the experiences of ex-investment will affect lenders' prediction of P2P projects (Iyer, Khwaja, Luttmer, & Shue, 2015; Paravisini, Rappoport, & Ravina, 2017), and home bias is also another element that has been taken into consideration by lenders (M. F. Lin & Viswanathan, 2016). Beyond that, scholars have put special attentions on the narratives of the P2P projects, seeing the influence on lenders' willingness taking by the descriptions or signals of the projects, and it is worth noting that signals and linguistics theories are frequently applied in these articles to analyse the influence factors. It is suggested that showing the characteristic of categories spanned is negative on the projects' results (Leung & Sharkey, 2014; Moss, Renko, Block, & Meyskens, 2018), and presenting the accomplishment, tenacity and variety of the projects also results in slower funding in lending-based campaigns (Allison, McKenny, & Short, 2013). On the other hand, a single linguistic description of the category usually attracts more and quicker funds from lenders (Moss et al., 2018), especially with the description of helping others rather than just offering a business opportunity (Allison, Davis, Short, & Webb, 2015), also, showing the

signals of autonomy, competitive aggressiveness and risk-taking characteristics is more likely and quickly to obtain funds from lenders (Moss, Neubaum, & Meyskens, 2015).

When some researchers are exploring the motivation of investors, some set up the goal-reaching and funding performance as the key discussion. Since most of the leading crowdfunding platforms (e.g., Kickstarter, Kiva.) are running an "all or nothing" operating mode, only if the projects reach their pre-set fundraising goal the funds can be sent to the creators. Otherwise the investments will return back to the backers (Gafni, Marom, & Sade, 2018), the goal-setting and social capital theories are chosen by most of the researchers to analyse the goal-reaching process and project performance. Under the theoretical support by these theories, Mollick demonstrates the key elements of crowdfunding's performance in 2014, that the performance of the crowdfunding campaign is influenced by both the creator's personal networks, underlying project quality and geography factor (Mollick, 2014). It is also indicated that the social capital resources play a significant role in the process of the Donation/Reward-based campaigns, as internal social capital is the key component of the campaign's start-up stage and is tightly associated with the likelihood of reaching the campaign's pre-set goal (Colombo, Franzoni, & Rossi-Lamastra, 2015; Skirnevskiy, Bendig, & Brettel, 2017), and with the social capital resources, the serial Crowdfunder's acquire higher trustworthiness then the novice Crowdfunder's, also taking advantages of the social contacts of their previous backers (Buttice et al., 2017). It is also suggested that investors are more likely to back the projects when it is nearing the goals due to the perception of "making an effort" (Kuppuswamy & Bayus, 2017).

Knowing the investors' motivation of engaging in and increasing the likelihood of reaching the fundraising goal is also the core research topic in Equity Crowdfunding related studies. It is suggested that the financial or utilitarian demand is the dominant motivation of Equity Crowdfunding investors; nonfinancial motivation does not play an important role in the Equity investment (Cholakova & Clarysse, 2015). The application of Signals Theory has also been highlighted in dealing with the motivation of investment; Ahlers, Cumming, Gunther and Schweizer's study (2015) illustrates that a detailed description of the risk and equity retaining are treated as virtual signals by investors and usually have a positive effect on increasing the likelihood of funding success. Besides, it is indicated that investors with public profiles are easier to get investment offers from early investors and attract late investors (Vismara, 2018a).

Linguistic theory has also been used in Crowdfunding and illustrates that linguistic style is one of the elements that influence the performance of campaigns. However, this is only applied on

social campaigns but has no significant effects on commercial campaigns (Parhankangas & Renko, 2017). Despite the above factors, it is suggested that sustainable orientation provides positive effects on the performance of crowdfunding; the creativity and legitimacy of the project also play a mediate effect on this relationship (Calic & Mosakowski, 2016; Davis, Hmieleski, Webb, & Coombs, 2017). Gafni et al. (2018) also suggests that more mentions of the creators' names are likely to succeed in crowdfunding, especially in art-related projects.

By reviewing the previous literature focusing on the different types of crowdfunding, we find that the Lending-based type attracts most of the crowdfunding researchers, as well as an amount of the researchers who are trying to find the generalized principles of Donation/ Reward-based crowdfunding. We also identify that most of the theoretical studies are taking the quantitative research method/methodology to investigate in the field they engage in, and experiment and observation is the most frequently chosen approach. It is also noticed that the application of the theories/literature in the crowdfunding research becomes diverse, although the traditional use of social capital theories, signalling theories and Linguistic theories have also been selected by researchers to explore the effect of the elements on the performance and goal-reaching for the crowdfunding projects. Crowdfunding, this ascendant phenomenon, has been applied in more and more different fields, not only finance and economics but also in many other social science areas.

2.2.3 Summary of major theories applied to crowdfunding research

Table 2 summarizes the major theories applied to crowdfunding research.

Table 2: Major theories applied to Crowdfunding research

Author name	Theories/ Literature	Methodology	Findings
Sonenshein, S., Herzenstein, M, & Dholakia, U. M. (2011)	Social accounts in decision making	Field data and laboratory experiment	Accounts facilitate economic exchanges between unacquainted transaction partners regarding the role in increasing perception of trustworthiness, but accounts can negatively relate to loan performance.
Zhang, J., & Liu, P. (2012)	Rational herding on lending	Random sample observation from Prosper.com	Rational herding occurs when lenders infer the creditworthiness of borrowers by observing peer lending decisions and moderate their inferences by using the publicly observable borrower characteristics.
Allison, T. H., McKenny, A. F., Short, J. C. (2013)	Political rhetoric theory and the concept of Warm-glowing giving	Sample observation from Kiva	Narratives higher in language indicating blame and present concern receive quicker funding, and narratives higher in accomplishment, tenacity, and variety result in slower funding
Lin, M., Prabhaia, N. R., & Viswanathan, S. (2013)	Net-work theory	Empirical modelling analysis	Online friendships have positive impacts on the results of lending-based crowdfunding and are associated with ex-post default rates.
Allison, T. H., Davis, B. C., Short, C. J. C., & Webb, J. W. (2014)	Cognitive evaluations theory	Sample observation from Kiva	Nascent firms with the description of helping others attract more lenders than firms that with only a business opportunity.
Belleflamme, P., Lambert, T., & Schwienbacher, A. (2014)	Price theory	Conceptual model	Entrepreneurs prefer pre-order if the amount of start-up capital is small and profit-sharing.
Cholakova, M., & Clarysse, B. (2014)	Investment motivations	An online survey from Symbid	Financial or utilitarian is the dominant motivation of engaging in equity funding nonfinancial motivation does not have a significant role in the motivations.
Colombo, M. G., Franzoni, C., & Rossi-Lamastra, C. (2014)	Social capital & self-reinforcing theories	Sample observation from Kickstarter	Internal social capital is the key component of the early contribution in crowdfunding campaigns and is tightly associated with the likelihood of reaching the campaigns' target.
Leung, M. D., & Sharkey, A. J. (2014)	Category membership research	Sample observation from Prosper.com	Showing the characteristic of multiple categories spanned campaign have negative effects on investors' willingness to engage, even if it is not explicitly described in the campaign's profile.
Mollick, E. (2014)	Goal setting & Social capital theories	An exploratory empirical study on the dataset from Kickstarter	The performance of the crowdfunding campaign is influenced by both projectors' personal networks and underlying project quality, and

			geography factor impacts both the type of campaign and its fundraising performance.
Ahlers, G. K. C., Cumming, D., Gunther, C., & Schweizer. (2015)	Signalling and social capital theories	Sample observation from ASSOB	Detailed risk information and equity retaining can be treated as virtual signals that have a positive impact on the likelihood of funding success.
Bruton, G., Khavul, S., Siegel, D., & Wright, M. (2015)	Emerging innovations in entrepreneurial finance	Systematic review	Every emerging innovation of finance comes with ownership, governance and outcome concerns and will constantly exist in its process.
Burtch, G., Ghose, A., & Wattal, S. (2015)	Research on privacy and reputation	Randomized experiment	Less reveal of funders' information makes more willingness from funders to engage in the crowdfunding platform.
Drover, W., Wood, M. S., & Zacharakis, A. (2015)	Certification effects in financing	Experiment	As certification from the collective is a function of crowdfunding platform type, both crowdfunding organizations and angels can certify new-emerging ventures.
Iyer, R., Khwaja, I. A., Luttmer, E. F. P., & Shue, K. (2015)	Soft information screening	Quantitative data analysis from Prosper.com	Nonexpert peer lenders predict 45% more accrete on individual's likelihood of defaulting on a loan than the borrower's credit score and achieve 87% of the predictive power of econometrician that understanding the standards information of borrowers.
Lin, M., & Viswanathan, S. (2015)	Home bias in finance	Empirical test & Quasi-experiment design	Home bias does exist in online lending-based crowdfunding due to two dominant reasons: economic and behaviour reasons and investors' contrasting empirical predictions.
Mollick, E., & Nanda, R. (2015)	Crowd judgement theory	Stratified data analysis from Kickstarter & Online survey	There is a significant congruence between experts and the crowds while dealing with the decision-making regarding evaluating crowdfunding projects.
Moss, T. W., Neubaum, D. O., & Meyskens, M. (2015)	Signalling theory	Quantitative data analysis from Kiva	The microenterprises with a signal antinomy, competitive aggressiveness and risk-taking characteristics are more likely to obtain funds and more quickly.
Calic, G., & Mosakowski, E. (2016)	Social Movements Theory	Quantitative data analysis from Kickstarter	Sustainable orientation provides positive effects on the performance of Crowdfunding project, and the creativity and legitimacy of the project plays a mediate effect on this relationship
Courtney, C., Dutta, S., & Li, Y. (2016)	Information asymmetry in finance	Empirical analysis of the data from Kickstarter	Start-up actions and characteristics can moderate investors' information asymmetry concerns on the quality of projects and projectors' credibility and increase the likelihood of reaching the goal of the campaigns.
Hildebrand, T., Puri, M., & Rochllod, J. (2017)	Information asymmetry in finance	Empirical analysis of the data from Prosper.com	Group leader bids get lower interest rates but higher default rates under the presence of rewards.

Paravisini, D., Rappoport, V., & Ravina, E. (2016)	Risk aversion in financing	Panel data analysis from Lending Club platform	Well-capitalized investors are more risk-averse in the cross-section, especially after experiencing negative housing wealth shocks.
Vismara, S. (2016)	Information cascades in finance	Sample observation from Crowdcube	Investors with public profiles get a high appeal of the offer among early investors and then, in turn, attract late investors.
Wei, Z., & Lin, M. (2016)	Market mechanisms	Analytical model & Empirical analysis of the data from Prosper.com	Loans are funded with higher probability but lower starting interest rates and contrast rates under platform-mandated posted prices.
Allison, T. H., Davis, B. C., Webb, J. W. & Short, C. J. C., (2017)	Elaboration likelihood model	Experiment on the quantitative data from Kickstarter	Issue-related information affect the most when funders hold greater ability and motivation to carefully evaluate the projects, but cues get the most substantial impacts on novice crowd funders' decisions.
Buttice, V., Colombo, M.G., & Wright, M. (2017)	Social capital & Net-work theory	Sample observation from Kickstarter	Serial crowd funders get higher trustworthiness than novice crowd funders and take advantage of the social contacts with their previous backers.
Davis, B. C., Hmieleski, K. M., Webb, J. W., & Coombs, J. E. (2017)	Affective events theory	Experimental study	The perception of product creativity plays a positive role in the result of reward-based crowdfunding campaigns.
Kuppuswanmy, V., & Bayus, B. L. (2017)	Goal gradient & Perceived impact	Sample observation from Kickstarter	Investors are more likely to fund the campaign while it is nearing the target due to the perception of making an impact on the campaign's result.
Parhankangas, A., & Renko, M. (2017)	Language expectancy theory	Empirical data analysis from Kickstarter	Linguistic styles do influence social campaigns by making them more understandable but not obviously impact commercial campaigns.
Skirnevskiy, V., Bendig, D., & Brettel, M. (2017)	Social capital theory	Quantitative data set analysis and survey from Kickstarter	"Family and friend" sourcing at the early stage of crowdfunding campaigns has been replaced by the loyalty sponsors' support during subsequent crowdfunding trials.
Anglin, A. H., et al. (2018)	Psychological capital & Signalling theory	Post hoc analysis from Kickstarter	Positive psychological capital signals have positive impact on the performance of crowdfunding campaigns.
Gafni, H., Marom, D., & Sade, O. (2018)	Pre-seed financing	Experiment on the dataset from Kickstarter	More mentions of the creators' names are more likely to fully succeed in crowdfunding , especially in art-related projects.
Greenberg, J., & Mollick, E. (2018)	Choice Homophily Theories	Lab experiments, field data	Female crowd funders are more likely to succeed than males and are the most successful in industries due to the activist choice homophily phenomenon.

Moss, T. W., Renko, M., Block, E., & Meyskens, M. (2018)	Category membership and spanning theories	Sample observation and post hoc analysis from Kiva	Investors are more likely and quickly to back the single linguistic category projects than the category spanned projects
Stevenson, R. M., Ciuchta, M. P., Letwin, C., Dinger, J. M., & Vancouver, J. B. (2018)	Self-efficiency & Control theory	Experimental study and quasi-experimental field study	Self-efficiency takes a disadvantage on decision making performance and may result in "crowd-bias" by overweighting the opinions from the crowd.
Walthoff-Borm, X., Schwienbacher, A., & Vanacker, T. (2018)	Pecking order theory	Empirical data analysis from Crowdcube	Using equity crowdfunding platforms is the "last-resort" of new emerging firms since firms listed on the platforms are less profitable and in higher debt levels than same standard firms not listed on the platforms.

2.3 Signalling theory introduction

The 2001 Nobel Prize for Economics was granted to George Akerlof, Michael Spence and Joseph Stiglitz for their work in analysing the market of asymmetric information since the 1970s (Akerlof, 1970). It is believed that Signalling theory (Spence, 1973) is becoming the most frequently used theory to investigate the markets in business, finance and entrepreneurship (Connelly, Certo, Ireland, & Reutzel, 2011). It is ideally adaptive for the researchers studying the crowdfunding market to guide the proposers to send observable signals to their shareholders by disclosing the ‘unobservable attributes and likely outcomes’ (Vismara, 2018b). Since the original intention of signalling theory is to avoid or reduce information asymmetry between two parties (Spence, 2002), it is necessary for the signalling theory researchers to get a clear understanding of the definition of ‘Information Asymmetry’. Both information asymmetry and signalling theories are focus on the decision making behaviours, information asymmetry arises when the two parties or individuals get different information during the decision-making process, while some information is known to one party that they could make better decisions than the other party who does not know the information (Connelly et al., 2011), that is, ‘different people know different things’ (Stiglitz, 2002).

The introduction of information asymmetry has broken the traditional assumption of perfect information in the past, researchers are beginning to realize that while making decisions, the imperfection of information will impact on the individual’s behaviour, the markets with information imperfection will not behave the same as the markets with perfect information (Stiglitz, 2000). Subsequently, signalling theory has arisen to resolve the information asymmetry phenomenon.

The concept of 'signalling' was firstly proposed by Michael Spence (1973), who explained the process of information transaction in the jobs market from the management perspective (Spence, 1973). Spence (1973) illustrated that, while employers and employees being in an information asymmetry situation, education credentials can be a signal of the employee to approve that they got better working ability, meanwhile, the signal is costly for the lower quality employees to get, it makes them distinguished with the employees who hold lower qualifications.

According to Spence's (1973) signalling model of labour market, there are three components of the signalling transaction process: *signaller*, *signals* and *receiver*. The signaller is the party or individual who has underlying characteristics but unobservable for the receiver to catch it from outside, and the signals should be the approach that the signaller makes the underlying factors observable to the receiver, as receivers are who outside of the information but aim to achieve benefits from receiving the signals (Connelly et al., 2011).

Nevertheless, in signalling transaction process, not only positive signals will be showed but also the negative ones. There is an example of the typical signalling model: high-quality firms and low-quality firms (Kirmani & Rao, 2000). While each firm has the insight of its own quality, the outsiders have no idea of that, thus there is an evident information asymmetry. To resolve the problem, all the firms will choose to either send or not send signals to the outsiders. Signals of high quality will help firms stand out and as determined by the outsiders, the signals of low quality could be treated unfavourable. Assuming outsiders can distinguish between high and low quality easily, the return of sending signals by high-quality firms is higher than the return without signals being sent. Similarly, the return of not sending signals by low-quality firms is higher than the return without sending any signal. However, while both the low-quality and high-quality firms get higher return from sending signals, the low-quality firms may choose to also send false signals that outsiders cannot not distinguish between the two firm types (Kirmani & Rao, 2000). Therefore, it is significant for signallers to choose the effective signals and approaches to make the signals observable to receivers, as well as making sure the signals are costly for others to obtain.

2.3.1 Signalling theory in crowdfunding

Signalling theory has been used to explain how signals suggest venture quality in many areas such as: brand development signals to promote product quality (Tsao, Berthon, Pitt, & Parent, 2011); management background signals to influence investor decisions (Higgins & Gulati, 2006); and Web site signals to indicate trustworthiness (Benlian & Hess, 2011).

Within the entrepreneurship literature, signalling theory indicates that a new venture team's success in attracting investors is depend on its ability to provide positive signals that indicate the potential value of the new venture and the founders's devotion and effort to the venture (Busenitz, Fiet, & Moesel, 2005).Similarly, under the context of talent market, a candidate's education or experience may serve as a signal of his/her value to the organization in the employer's eyes. Value signals indicate a measure "of the value [the investor] can expect to receive from the proposed venture" (Prasad, Bruton, & Vozikis, 2000). Likewise, a candidate's commitment to the job may be demonstrated through longevity in previous jobs or willingness to relocate (Bangerter, Roulin, & Konig, 2012). Because the success rate of new ventures is quite low, investors require a signal to suggest the entrepreneur's commitment to completing the project successfully. Commitment signals indicate the "determined actions of [the venture team] to overcome obstacles and achieve venture success." (Busenitz et al., 2005)

Similar to consumer-focused environments, investors in a crowdfunding context will surely take the value of a project as a key factor to determine the potential return for their investment (Wells, Valacich, & Hess, 2011). However, the uncertainty concerning the success of the project—similar to that of a new venture environment—depends on the project team's ability and commitment to see the project through to completion. In this context, signals of commitment will also serve to influence funder decisions.

Originally, signalling theory recognizes that the most productive signals will be both observable and costly when the theory has been established historically (Spence, 1976). Web 2.0 expands the capabilities of visuals, including such as video and photos; audio; hyperlinks and text; threaded interactions; and personalization can convey a variety of observable cues, and provide a rich context for conveying value and commitment in crowdfunding (Gregg & Walczak, 2008). Additionally, the most productive signals tend to be costly as well, given the effort to produce authentic, well-designed and well-articulated signals (Moss et al., 2015). Then, scholars realize that here comes the question: how could the two parties ensure that the signals have been interpreted correctly and clearly in the transmission process?

Generally speaking, information asymmetry usually being presented to ‘describe the behaviour when two parties (individuals or organizations) have access to different information’ (Connelly et al., 2011). In the context of finance and ventures, information asymmetry also exists between investors and fund-seekers (Agrawal, Catalini, & Goldfarb, 2015; Ahlers et al., 2015; Connelly et al., 2011). According to Vismara (2018b), crowdfunding reduces the cost of accessing information but increases the cost of pitching the right crowd due to the star-up's lack of due diligence. Meanwhile, other researchers also argue that, due to the knowledge limitation and lack of investing experience, potential investors in equity crowdfunding have few ideas about the company value, thus even a high-return potential project may get no funds from the potential investors, especially when the investors are uninitiated and the investment is relevantly small compare with venture capital (Ahlers et al., 2015; Backes- Gellner & Werner, 2007; Busenitz et al., 2005).

Most of the existing crowdfunding studies have discussed information sharing, information asymmetry, and financing performance based on information asymmetry and signalling theory and have come to a relatively consistent conclusion that information sharing is an effective means to solve the information asymmetry problem (Mollick, 2014; Ahlers et al., 2015; Kromidha and Robson,2016; Courtney et al., 2017; Hornuf and Schwienbacher, 2018). However, certain problems will occur after information sharing has taken places, such as information overload, market noise, and indistinguishable information authenticity (Xiaoxin. LI & Cao, 2016; Wessel et al., 2016; Yue, Zhou, & Yang, 2016), which trigger a crisis of trust in investors towards entrepreneurs and their information sharing and confuse investors' rational investment decisions. Before this thorny issue has drawn sufficient attention from the crowdfunding researchers, the existing studies on entrepreneurship and crowdfunding based on social capital perspectives also provide some research ideas that can be used to explore this issue in depth.

Although several effective measures to address information asymmetry (e.g., optimal contracts, institutions and regulations, and information intermediaries) have been refined in the previous literature (Healy & Palepu, 2001), the emergence of innovative financing contexts such as online crowdfunding has challenged the applicability and effectiveness of these measures. First, while the traditional financing approach relies on a small number of professional investors, the crowdfunding approach depends more on a large number of small-scale investors (Ahlers et al., 2015), then the investment relationship shifts from “one-to-one” or “one-to-few” to “one-to-many”, limiting the application of optimal contracts. Second, since most of the financing

projects on crowdfunding platforms are in the early or even embryonic stages of entrepreneurship, the lack of historical financial data and performance makes it impossible to directly apply information disclosure, financial reporting, and other relevant systems to deal with information asymmetry in crowdfunding platforms. Again, previous investment situations also relied on information intermediaries such as auditors, analysts, and rating agencies to reduce information asymmetry. The involvement of information intermediaries enhances the credibility of information disclosure and informs investors' investment decisions by generating other valuable information. While the traditional fundraising tools communicate with investors through the indirect channel as "entrepreneur-to - information intermediary- to- investor" or the direct channel of "entrepreneur-investor", the emergence of crowdfunding makes the role of information intermediaries absent and the communication mode between entrepreneurs and investors changed to the only path of information sharing between entrepreneurs and investors, which poses a higher challenge and requirement for entrepreneurs to play the role of information sharing to reduce the level of information asymmetry.

In addition, the level of information asymmetry in equity crowdfunding is even higher than in the venture capital for the early-stage investors, as the expenses of obtaining information, monitoring and processing the project are more sensitive due to distance (Agrawal et al., 2015). As mentioned before, the two critical characteristics of effective signals are observable and costly. Besides, the cost of the signal should not overweight its benefit (Connelly et al., 2011). In the process of fundraising through the equity crowdfunding platforms, unobservable qualities of the entrepreneurs can be chosen as a signal of an attribute of the company quality. However, start-ups are usually hard to present the unobservable quality of their companies; thus, “evaluators must appraise the company based on observable attributes that are thought to co-vary with its underlying but unknown quality. Resource holders, therefore, assess value by estimating the conditional probability that a firm will succeed, given a set of observable characteristics of the organization” (T. E. Stuart, Hoang, & Hybels, 1999).

To the potential investors, whether a venture can earn a certain amount of cash flows in the future could be an unobserved quality (Ross, 1978). In an ideal assumption of investors and fund-seekers behaviour, if they act rationally in the market, then fund-seekers will send signals to the investors (Michael, 2009). However, this may cause an “unravelling effect” where all firms signals equilibrium (Ahlers et al., 2015).

2.3.2 Signals of the crowdfunding performance from empirical studies

- Identified signals for general crowdfunding

To attract different pools of investors, researchers test the effective signals for different types of crowdfunding activities. Some researchers recognize the early investment as a general signal of all kinds of crowdfunding (Burtch, Ghose, & Wattal, 2013; Colombo et al., 2015; Vismara et al., 2017), in both donation, reward and investing based crowdfunding; campaigns get the higher possibility to reach the target if they get high performance at the early stage of the projects. It is also indicated that the investors who participated in the earlier time of the pledges played a positive impact on the following investors, which can be seen as a positive signal of the project's "success" (Colombo et al., 2015).

The venture's overall impression could also be a critical essential indicator of the crowdfunding's success (Moritz, Block, & Lutz, 2015). According to Cumming, Rossi and Vismara's working paper in 2017, the application of due diligence plays a "strong, positive influence on the fundraising success rate and amount in the platform, controlling for all services a platform offers" in all types of crowdfunding. Specific to equity crowdfunding, it is vital to have investors perceive sympathy, openness, and trustworthiness to reduce the perceived information asymmetry. Endorsement from a third-party also sends a signal that has a positive impact on the investors' willingness to pay (Moritz et al., 2015).

Equity retention has also been chosen as a helpful signal to predict the success of crowdfunding. Vismara (2016) investigates 271 campaigns collected from the platforms Crowdcube and Seers and found that start-ups are more likely to succeed in equity crowdfunding with less equity proportion sold in the projects since more significant more prominent faction listed in the crowdfunding campaign reduces investors' willingness to participate in the projects (Ahlers et al., 2015).

Another acknowledged signal by the prior research is the geographic factor; investigations have been done in the type of both reward-based and investment-based crowdfunding to approve that. Mollick (2014) indicates that geography should be a critical essential factor that impacts the success of the crowdfunding effort. In Ralcheva and Roosenboom (2016) study, the researchers figure out that in the equity crowdfunding context, the projects showing their locations in big cities achieve more funds from the investors, based on the 541 samples' data collected from Crowdcube, the world's largest equity crowdfunding platform. However, although friends and family is the main resource in the early stage of crowdfunding, it is

indicated that the distance between investors and projectors does not have a visible connection with the funding amount campaigns. Agrawal et al. (2015) tested a reward-based crowdfunding platform for musical artists and came out with this conclusion. In 2017, Hornuf and Neuenkirch (2017) investigated the same topic in the equity crowdfunding context and reached the same destination.

2.3.3 Signals of the crowdfunding in China

Narrowing down to the Chinese crowdfunding context, the literature suggests that Chinese scholars pay more attention to investigating the dynamics of donation-based and reward-based crowdfunding. The most recent studies highlight the effect of online medical crowdfunding' target amount, with the view of numbers of forwarding and comments of the projects on the crowdfunding platform strengthens the performance of the campaigns while the target amount weakens the positive effect of forwards and words (S. Liu, Cheng, & Wang, 2020). Here, an unreasonable medical crowdfunding target amount has been recognized as a negative signal of the crowdfunding's performance. Besides, Kuo, Lin, and Hou (2020) explore the anchoring effects of pledge options on reward-based crowdfunding, the result of online experiments indicates that the "bolstering range offer" impact significantly on the campaigns investment amount while presenting the current average pledge amount in the fundraising process has a negative anchoring effect on subsequent backers' investment amount.

- Identified signals for equity-based crowdfunding

In terms of equity crowdfunding, some scholars believe the third party signal plays a significant impact in the campaigns' performance. Kleinert., Volkmann, and Grunhagen (2020) study on 221 projects on the equity crowdfunding platform Crowdcube based on Signalling theory draw the conclusion that prior financing citifies venture quality and reduces information asymmetries. Previous financing in multiple conventional entrepreneurial finances such as VC, business angles and grants positively effects on the equity crowdfunding performance, particularly the signal with VC is more effective for ventures with low levels of human and social capital (Kleinert. et al., 2020). Besides, Kleinert. and Mochkabadi. (2021) also suggest that gender stereotypes still exist in the signal sending process between entrepreneurs and investors. Drawing on signalling and gender role congruity theory, Kleinert. and Mochkabadi. (2021) took 263 samples of equity crowdfunding campaigns to test the effect difference on male and female projectors and came out with the conclusion that management experience is positive for male projectors but detrimental for female entrepreneurs. However, with third-party signal of media, female projectors are superior with the equity crowdfunding campaigns.

2.3.4 Crowdfunding signals and investor motivation

The application of signalling theory has also been highlighted in dealing with the motivation of investment. Ahlers, Cumming, Gunther and Schweizer's study (2015) illustrates those detailed descriptions of the risk and equity retaining are treated as virtual signals by investors and usually have a positive effect on increasing the likelihood of funding success. The study focuses on which crowdfunding project signals and attributes of venture quality are most likely to induce investors to commit financial resources in an equity crowdfunding context. They examined 104 projects from the Australian Small Scale Offerings Board (ASSOB) from Oct 2006 to Oct 2011, and hypothesized Human Capital, Social Capital and Intellectual Capital as the signals in equity crowdfunding campaigns. The results illustrate that retaining equity and providing detailed information about risks can be an effective signal that will indicate a more substantial probability of funding success. In contrast to the previous research (Mollick, 2014), the results figure out social capital and intellectual capital does not have a significant impact on funding success (Ahlers et al., 2015).

Ahlers et al. argue that there are two channels that play an essential critical essential role in the success of funding, one is venture quality, and the other is the level of uncertainty. Based on Baum and Sliverman's (2004) structure, Ahlers et al. demonstrate the venture quality of a company is indicated by human capital, social capital, and intellectual capital, and add the uncertainty of the information as another channel to drive the success. Since Baum and Silverman (2004) argue that investors will be most likely to invest with the attributes of Venture Quality, Ahlers et al. build up a model based on Baum and Silverman's (2004) structure to test the impact of venture quality in crowdfunding context. Ahlers et al. (2014) demonstrated that regarding crowdfunding, venture quality can be indicated by three factors: social capital, human capital and intellectual capital, and the result advise that there is a positive correlation between venture quality and the success of crowdfunding campaigns. This has been supported by some other researchers' prior work as well, as social network of the venture, education level of the start-up's team, and the protection of intellectual property rights are important signals to the investors, especially the experienced group (Audretsch, Bonte, & Mahagaonkar, 2012; J. H. Block, De Vries, Schumann, & Sandner, 2014; Connelly et al., 2011).

- Social Capital

In the previous literature, social capital has been frequently discussed through a social network theory perspective. The idea that entrepreneurial behaviour is rooted in social networks has been widely accepted. It has been emphasized that social capital is one of the fundamental

theoretical perspectives in research related to the field of entrepreneurship (Gedajlovic, Honig, Moore, Payne, & Wright, 2013). Social capital is defined as "the sum of resources embedded in the network relationships held by individuals or social units" (Nahapiet & Ghoshal, 1998). According to Granovetter (1992), social capital contains two main dimensions: structural and relational. The structural dimension describes the overall pattern and configuration of social connections among actors, including morphological concepts such as network connections and network structure (Burt, 1992). The relational dimension focuses more on resources that can be utilized through relationships and repeated social interactions (Granovetter, 1992), including aspects of trust, norms, obligations, and identity. The structural dimension is the source of social capital and a prerequisite for the formation of the relational dimension, which in turn reflects social capital resources (Gedajlovic et al., 2013).

In terms of the structural dimension, social capital is created through the linkage of network relationships and becomes a prerequisite for successful financing (Skirnevskiy et al., 2017). As a result, resource-constrained entrepreneurs often seek to increase their legitimacy by forming network connections, thus, approaching potential resource holders (Aldrich & Fiol, 1994). Elfring and Hulsink (2007) also argue that social network connections help entrepreneurs identify opportunities, access resources, and build legitimacy. Existing research on crowdfunding has also focused on this dimension, emphasizing that social networks include not only friends and family (Agrawal et al., 2015) but also all members of the social media (e.g., Facebook friends) (Mollick, 2014).

In terms of the relational dimension, resources such as trust and information formed through repeated social interactions play an essential role in reducing uncertainty and enhancing the success of financing (Hsu, 2007), and the mechanisms of influence include trust-building, information flow, penalty constraints, and preference selection (Ferris, Javakhadze, & Rajkovic, 2017). Among the above elements, trust is an important dimension of social capital (Welter, 2011) both as a driving force for social relationship building and as a lubricant for social network activities (A. Anderson, Park, & Jack, 2007). With the trust mechanism, social capital can effectively reduce the cost and need for regulation, weaken the adverse effects of incomplete contracts and information asymmetry, and improve the efficiency of financing. In recent years, with the rise of Internet financing, the information mechanism of social capital has also become more important. The information mechanism emphasizes that network connectivity and social capital open new channels of information flow (Engelberg, Gao, & Parsons, 2012; Hochberg, Ljungqvist, & Lu, 2007), through which entrepreneurs can access

rich and complementary information and resources to support entrepreneurial activities (Burt, 1992; Elfring & Hulsink, 2007), investors who are at an information disadvantage also have access to information, thus reducing information asymmetry, lowering financing costs, and increasing investor participation.

2.3.5 Crowdfunding signals and social networks

Besides Ahlers et al. (2014), several researchers have also noticed the importance of social networks in attracting potential investors; in Mollick (2014) study, the author illustrates that in reward-based crowdfunding context, the projector's social network plays a positive impact on the result of the crowdfunding campaign. Belleflamme, Lambert, and Schwienbacher (2014) argue that crowdfunding projectors build up connections with their social network through online platforms to get more resources. Colombo et al. (2015) did another test with the same platform based on Belleflamme et al. (2014) and pointed out that, especially in the early stage of crowdfunding, social capital plays an important role in attracting investors, which accordingly impacting on the results of crowdfunding campaigns. Vismara et al. (2017) reason that especially the investors with a public profile will attract following investors in the crowdfunding process, whereas narrow down to equity crowdfunding, Vismara (2016) study illustrates that with larger size of social networks, the entrepreneurs have higher success probabilities on their equity crowdfunding projects. However, these studies overlook the impact of social capital in the 'crowd-investing' context, especially in the type of equity crowdfunding (Vismara, 2018b).

Ma and Yang (2011) verified the vital role of social networks in supporting entrepreneurship in rural China, highlighting the role of social networks as a vehicle for informal finance by effectively mitigating information asymmetry in private lending through information sharing and reducing opportunism. In addition, social capital can also play an important role in spreading default information through reputation loss or punishment mechanisms, and identification with a group or network can also change the preferences and choices of individuals in the network, thus influencing financing behaviour (Ferris et al., 2017).

However, the existing equity crowdfunding research has neglected the combination of social attributes and information sharing of entrepreneurs and is limited to information sharing within the Internet crowdfunding platform. There is a lack of research on how entrepreneurs can fully grasp social attributes and use third-party social media platforms to share information, and the theoretical application and development of social capital perspective in the context of Internet venture financing needs to be further tested and enriched.

- Human capital

As mentioned before, due diligence is a useful signal for potential investors to advise the quality of crowdfunding campaigns. However, equity crowdfunding projects can only be accessed during a specific duration (Skirnevskiy et al., 2017), and the communications between investors and campaign creators mainly occur online (Baucus & Mitteness, 2016). On the other hand, the backers of equity crowdfunding are usually unsophisticated, with few investing experiences in the past (Agrawal et al., 2015). Consequently, it is impractical for the investors to have a full-coverage off-line due diligence of the equity crowdfunding entrepreneurs. Therefore, perceiving signals through the information provided on online equity crowdfunding platforms is an important approach for investors to predict the success of a project.

Except for social capital, human capital has also been seen as another important signal of venture quality. In the previous studies, a couple of researchers have been aware that human capital plays a relevantly positive status of the venture success and can be reflected through several aspects during the crowdfunding process. Human capital usually indicates more skills and higher capabilities in identifying and exploring business opportunities (Shane & Venkataraman, 2000), designing and implicating venture strategies (Baum, Locke, & Smith, 2001), obtaining additional resources (Brush, Greene, & Hart, 2001).

The concept of human capital was initially developed to analyze its contribution to employee's salary (Becker, 1964; Mincer, 1958), then soon after that; it widely involved by entrepreneurial researchers in discussing the success of the business, especially in the models to predict the results of firms. Human capital researchers believe that once people invest in human capital, they wish to get a return from their investment to balance the payout (Becker, 1964), the more they put into human capital, the more they are likely to struggle for higher profits compared to the entrepreneurs with less investment on human capital (Cassar, 2006). There is a large volume of published studies describing the role of human capital in the success of entrepreneurship; most of the research indicates a positive link between human capital and entrepreneurial success over the past 40 years. The arguments suggest that human capital-usually indicated by the education level, working experience, related knowledge and technique skills of the entrepreneurs – has a positive impact on venture success (Bosma, van Praag, Thurik, & de Wit, 2004; Cassar, 2006; Sexton & Upton, 1985; Unger, Rauch, Frese, & rosebusch, 2011). It mostly impacts on the entrepreneurs' ability of reaching out for outside financial and physical resources (Brush et al., 2001), exploring and discovering potential

business opportunities (Shane & Venkataraman, 2000) and developing new technologies and skills, help them to gain more opportunities to become successful (Baum et al., 2001).

Surveys such as the meta-analytic conducted by Unger et al. (2011) demonstrates that human capital is a remarkable element related to venture quality (Doms, Levis, & Robb, 2010), that 'ranks prominently among those signals' (Piva & Rossi-Lamastra, 2018). However, what type of human capital is convenient to the venture success remains debatable. Traditionally, it has been argued that experience of assessing company potential is the highlighted human capital that impacts the results of firms (R. W. Stuart & Abetti, 1990), while management experience and skills are actually the most common selected criteria by venture capitalists (Zacharakis & Meyer, 2000).

According to Ahlers et al. (2015) and Vismara et al. (2017), the number of board members has a positive impact on the crowdfunding projects' result, which may be a reflection of the ratification from outside investors that recognize the company's ability to deal with the uncertainty of the market. Besides, it is also indicated that experienced investors (Venture capitalists, angel investors,) prefer the ventures with human capital signal (Robb & Robinson, 2014). Moreover, entrepreneurs' education levels are being taking to an important element for the inexperienced investors who invest in the 'high technology' industries (Levie & Gimmon, 2008).

- Intellectual capital

According to Spence (1973)'s criteria of the effective signal, the signals should be not only observable but also costly, which makes the venture's attributes challenging to replicate by other competitors. In Ahlers et al. (2015) study, intellectual capital has also been selected as the signal of indicating good venture quality. However, the result shows there are no apparent connections between being granted rewards and the success of crowdfunding campaigns, although the authors realize that may be due to the limited sample size. On the other hand, specifically to start-ups, previous studies (Baum & Silverman, 2004) have recognized that innovation or in other words- patent, meets the appeal of being talent showing up, especially in the 'high-tech' industries, holding patents or having patents in applying Signalling the innovative capability and technological skills (Baum & Silverman, 2004; Silverman & Baum, 2002). To a certain degree, patents guarantee the ability to compete with the 'future market entrants. Meanwhile, technical information also delivers positive signals to potential investors in a niche, which could be hard to reach by other industry peers (Cohen & Lemey, 2001).

Specific to the equity crowdfunding context, Ralcheva and Roosenboom (2016) demonstrate that there is a strong positive connection between intellectual property and the success of campaigns, especially of winning a reward or grant, is the 'most economically significant impact to reach success'. In the equity crowdfunding context, it is usually indicated by the offering documents provided by the entrepreneurs with the projects on the equity crowdfunding platform. As mentioned in Section 5.2.3, the effective signals should be the signals that are observable and costly (Connelly et al., 2011), thus not all the information provided by the entrepreneurs are useful to investors, only the information delivers the star-up's attributes that can be understood by the investors is observable. According to Baum and Silverman (2004), we treat Human Capital, Social Capital and Intellectual Capital as effective signals to indicate the venture quality.

Ahlers' et al. (2015) research hypotheses that the projects with observable characteristics that are treated as high venture quality have more likelihood to gathering funding and providing less information of the entrepreneurs will affect a restriction of potential investors while assessing the projects. However, the results demonstrate that, in venture quality, social capital and intellectual capital does not have much impact on the success of equity crowdfunding , while retaining equity shares and providing more precise information of the fund-seekers could have a positive effect on it.

2.4 Equity-based Crowdfunding in China

2.4.1 From Crowdfunding to Equity Crowdfunding

Equity-based crowdfunding originated in the United States, but due to regulatory and legalization issues, equity-based crowdfunding was not widespread in the United States. Since the United States implemented the "Entrepreneurship Financing Act" in April 2012 to provide special regulations for crowdfunding, it has escorted the legalization of equity-based crowdfunding. In the United States, equity-based crowdfunding has developed rapidly after the promulgation of the JOBS Act. The relatively influential equity-based crowdfunding website initially established is ProFounder. The website provides two types of investment one is "public offering", and the other is "private equity". These two types are different in the amount of benefit that investors return. The rate of return and the return period disaccording to various projects, but the maximum cannot exceed five years. The gains obtained can only be equity interests and not equity or other ownership interests. Therefore, equity-based crowdfunding in the United States is divided into two types: "public offering" and "private offering" (Zero One Research Institute, 2015).

In the UK, Crowdcube and Seedrs are the two relatively influential equity-based crowdfunding platforms launched recently. Crowdcube is the first equity-based crowdfunding platform, and it has not yet obtained the permission of equity-based crowdfunding supervision at the beginning of its establishment, while Seedrs waited for regulatory approval before starting to establish. Both platforms have made considerable achievements in a short period of time. Thanks to the characteristics of "small and fast", equity-based crowdfunding has achieved rapid development on a global scale. In 2011, Crowdcube, the world's first equity-based crowdfunding platform, was born. As of the end of 2014, the cumulative funding of equity-crowdfunding platforms worldwide was approximately US$1 billion. Among the important platforms are Angelist (USA), WiSeed (France) and so on. Within a few short years of the global economic crisis, developed economies have been able to recover rapidly, thanks in large part to the financing support of equity-based crowdfunding for start-up companies. For example, Companisto in Germany, since its establishment in 2012, has facilitated nearly 16,000 financings with a total of 4.5 million euros. Since the establishment of Wefunder in the United States, a total of 29,908 investors have participated in the funding of more than 18 million US dollars for start-ups such as Flying Cars and Seven Cups of Tea Listening Services (D. Li & Xu, 2015). At the very early stage of the emergence of equity-crowdfunding in China, the equity-based crowdfunding websites are mainly represented by Angel Exchange and Dajiatou. As of January 3, 2016, 410 projects on Angel Exchange have completed more than 4.1 billion financings (Angel Exchange Website Statistics, 2016).

According to Ahlers et al. (2015), equity crowdfunding is “a method of financing, whereby an entrepreneur sells a specified amount of equity or bond-like shares in a company to a group of (small) investors through an open call for funding on Internet-based platforms”. In brief, investors support the projects by buying a certain amount of shares from the company but may without the voting rights, then get benefit return from the dividend or profit (Pichler & Tezze, 2016). Different from donation/ rewards-based crowdfunding, it is suggested that the financial or utilitarian demand is the dominant motivation of Equity Crowdfunding investors; nonfinancial motivation does not play an important role in the Equity investment (Cholakova & Clarysse, 2015). Moreover, it is believed that equity crowdfunding is the only crowdfunding type for both start-ups and established enterprises to obtain financial support some researchers even name equity crowdfunding as “crowd investing” to distinguish it from other forms of crowdfunding (De Buysere et al., 2012; Hagedorn & Pinkwart, 2016; Moritz & Block, 2016).

Equity crowdfunding has two significant differences to traditional fundraising methods: process of fundraising, and investment amount (Ahlers et al., 2015; Belleflamme et al., 2014). Equity crowdfunding seekers usually put an open call on a crowdfunding platform to attract investors who may be unknown, and the contract and amount are already settled when investors sign up the campaign. Investor backers make their investment decision based on the information provided by the crowdfunding seekers or project leaders (aka projectors) on the platform. Another important difference from traditional methods is that the amounts are generally much smaller than venture capital or angel investments (Belleflamme et al., 2014).

Ahlers et al. (2015) noted that equity crowdfunding should be the most suitable one in all types of crowdfunding for an empirical analysis of small investors. Returns are less important in donation-based crowdfunding, while reward-based crowdfunding is more likely a pre-purchased action. Thus, lending-based (equity) crowdfunding seems to be an appropriate object for an empirical analysis in relation to signalling. However, what is the guiding signal of lending-based crowdfunding is uncertain. In a lending context, the credit of a company should be the first factor to be considered. However, in a crowdfunding context, start-up companies usually do not have a credits history (M. Lin, Prabhala, & Viswanathan, 2009).

2.4.2 Equity-based Crowdfunding in China

While equity-based crowdfunding is rapidly developing and becoming one of the new primary fundraising tools for SMEs in the US and Europe, equity-based crowdfunding in China is still an ambitious concept that has not been fully legalized. Moreover, the boundary between it and illegal collective crime is unclear. In 2013, the first equity-based crowdfunding case occurred in China. In 2014, China ushered in the first secured equity-based crowdfunding project. As of May 2014, China's Securities Regulatory Commission issued an opinion draft aimed at regulating crowdfunding. In November of the same year (2014), the State Council executive meeting proposed to develop pilot projects for small amounts of crowdfunding in the capital market. In December of that year (2014), the Securities Association of China promulgated the "Management Measures for Private Equity-based crowdfunding (Trial) (Draft for Solicitation of Comments)" – hereinafter referred to as the "Draft for Soliciting Comments". Equity-based crowdfunding was actively explored and developed in China after that document.

In March 2015, the General Office of the State Council issued the "Guiding Opinions on the Development of Crowdfunding Space to Promote Mass Innovation and Entrepreneurship", which stated that the pilot program of Internet equity-based crowdfunding would be launched

to enhance the service capabilities of crowdfunding for mass entrepreneurship. During the National People's Congress that year, the "Pilot of Equity-based crowdfunding and Financing" was included in the "Government Work Report". In May 2015, the State Council approved the "Opinions on the Key Work of Deepening the Economic System Reform in 2015", which laid out the reform priorities for 2015. The fifth part of the opinion mentions that it is necessary to "develop a regional equity market serving small and medium-sized enterprises and carry out pilot equity-based crowdfunding financing". On July 18, 2015, ten ministries and commissions issued the "Guiding Opinions on Promoting the Healthy Development of Internet Finance", which defined the term "equity-based crowdfunding" and regulated the service objects, launch channels, and information disclosure forms of equity-based crowdfunding. On August 3, 2015, the China Securities Regulatory Commission issued the "Notice on Special Inspections of Institutions that Carry Out Equity Financing Activities via the Internet" (Zero One Research Institute, 2015). Since then, equity-based crowdfunding has been moving towards standardization and legalization in China.

In present China, equity-based crowdfunding includes three types: certificate type, membership type and angel type. Among the certificate type, the representatives of the first category include "Flower & Herb Skin Care Store" and "Micro Membership Card Online Direct Store". Investors who want to obtain equity only need to purchase a membership card. The second type is active in the catering service industry, including cafes and restaurants. These projects are usually invested by shareholders with less than 200 people, such as Peking University 1898 Cafe. After 2014, such projects expanded to clubs and teahouses. The third type of equity-based crowdfunding is characterized by universal participation. In this way, the scope of angel investment in China can exceed limited angel investors with vital financial resources, such as Angel Exchange and Dajiatou. It can be seen that ordinary investors can also obtain equity by investing in SMEs through crowdfunding platforms (D. Li & Xu, 2015).

The rise of equity-based crowdfunding has brought hope to countless micro, small and medium enterprises. Equity-based crowdfunding has many advantages such as low threshold, less cost, high efficiency, and few restrictions. At the same time, its essence of social innovation of "raising funds, raising people, and raising intelligence" provides a new solution to the financing difficulties of small and medium-sized enterprises, which is beneficial to activating the vitality of small and micro-enterprises. As an important part of Internet finance, equity-based crowdfunding is developing rapidly and at the same time presenting a chaotic state of operation. Although the number of crowdfunding platforms is increasing, the overall transaction volume

is still relatively low; equity-based crowdfunding lacks investors, and some crowdfunding platforms target the elderly with weak risk awareness and lack of basic investment concepts. Equity-based crowdfunding did not show a healthy state of development in the early stages of China's development.

2.4.3 The operation mode and legal nature of Equity Crowdfunding in China

An equity-based crowdfunding platform refers to an intermediary that provides both investors and investees of equity-based crowdfunding with services concerning the information release, the alignment between supply and demand, the assistance in fund transfer, via an Internet platform, according to the stipulation of Clause V [Platform Definition] of *the Exposure Draft*. Although the Draft has defined the equity-based crowdfunding platform, the document has not expounded its legal status and essence yet. After being approved for market use, the equity-based crowdfunding platform needs to be defined in terms of its nature, rights and obligations so that the rights of investors in equity-based crowdfunding can be safeguarded. The clarification of the legal essence and responsibilities of an equity-based crowdfunding platform is conducive to regulating its rights and obligations and guaranteeing its investors' rights. Therefore, to clarify such platforms' legal essence will directly concern the development of the equity-based crowdfunding industry and the protection of investors' rights in China.

One point of view goes that an equity-based crowdfunding platform serves as an agency, namely an intermediary. The platform bridges equity-based crowdfunding investors and financiers who are looking for investment for their projects and optimizes the resource allocation in between to improve the capital's utilization efficiency and to bring opportunities for effective social capital utilization. Independent of both transacting parties, it only serves as a connector between investors and projectors, aiming to facilitate transactions between both parties and then to gain its remuneration accordingly. However, the platform does not engage in those transactions directly, so it acts as a kind of intermediary. The court also defined the contract between the financiers and the equity-based crowdfunding platform as an "intermediary contract" in "the first case on equity-based crowdfunding "(Sohu data source, 2015). Therefore, some scholars hold that such a platform is essentially a kind of intermediary.

An alternate view argues that to define an equity-based crowdfunding platform as an intermediary cannot well reveal the legal attributes of such platforms, which is not only of particular bias but also challenging to clarify the complete legal relationship between transacting parties of equity-based crowdfunding (R. Zheng, 2015). According to their reason,

an intermediary only reports the possibility of transaction opportunities to both parties while the final decision on the transaction lies in trustors. However, during the process of an equity-based crowdfunding transaction, financiers have given up the final say. The platform just publishes the information from the projectors on itself and then has no responsibility to give feedback on relevant information to its trustors. Some platforms not only provide intermediary services but also engage in income distribution. Furthermore, those platforms also assume specific duties to supervise and manage equity-based crowdfunding transactions. On the one hand, they should check the identities and qualifications of both investors and investees; on the other hand, they will also engage in fund management and post-investment management after a successful equity-based crowdfunding project. Thus, the equity-based crowdfunding business scope obviously goes beyond the intermediary scope. The multiple particular attributes of the main body of such platforms have contributed to an identity attribute far beyond the legal essence of an intermediary (R. Zheng, 2015).

An equity-based crowdfunding platform gathers many investors on its platform via the Internet to form a new relationship. Such a collective attribute of potential or actual investors often makes the general public regard the platform as a collection that gets involved with the financiers who are seeking investment on the platform, forming a relationship similar to that between securities investors and securities issuing banks (R. Zheng, 2015). Operation modes vary upon equity-based crowdfunding platforms during their operation process. However, no matter which model has been adopted, a platform serves as a bond and plays a positive role in the relationship between investors and financiers.

The definitions of the legal status of equity-based crowdfunding platforms vary among countries due to different operation modes and legal systems of equity-based crowdfunding, which generally include the following types: (I) Equity-based crowdfunding websites are defined as broker-dealers or funding portals. This definition is mainly adopted by the US and Canada. In the US, equity-based crowdfunding platforms are required to be registered in the U.S. Securities and Exchange Commission (SEC) before their standing as broker-dealers or “funding portals”, and then they can qualify for engagement in equity-based crowdfunding transactions. Therefore, equity-based crowdfunding platforms in the US are in a status like broker-dealers. Canadian equity-based crowdfunding platforms comprise two categories, “exempt market traders” and “restricted traders” (R. Zheng, 2015). (II) Equity-based crowdfunding platforms are defined as investment consultancies. An equity-based crowdfunding platform is defined as a so-called participatory investment consultancy (CIP) for

registration that is like financial investment consultancies, according to *the Participatory Financing Regulations* issued by France. Although there is no requirement on registered capital for such consultancies, they are forbidden from engaging in other activities. (III) Equity-based crowdfunding platforms are regarded as "exchanges" or financial service providers for investment. Relevant stipulations can mainly be seen in the current *Australia Corporations Act* (R. Zheng, 2015).

Some Chinese scholars define domestic equity-based crowdfunding platforms as intermediaries but ignore the fact that the regulations regarding to equity crowdfunding is quite different from those foreign countries. Nevertheless, the legal essence of equity-based crowdfunding platforms concerns not only the financial or securities laws in a country but also the operation modes taken by those platforms. However, no matter how their legal essences are defined, their business form one part of either the financial business or the securities business, or at least is relevant with either of both. It is so believed herein that it's inappropriate for some scholars and the practice field in China to define such a platform as an intermediary because it is inconsistent in both theory and practice. The fact that an equity-based crowdfunding platform is defined as an intermediary only serves as an expedient measure as the platform has not been fully legalized in China yet. In the long run, crowdfunding for public offering rights should be legalized by amendments to *the Securities Law* in the future. Small exemptions should be gradually implemented for crowdfunding for such purposes. Equity-based crowdfunding platforms should be given the attributes like securities trading middlemen and abide by stricter standards and accountability than those for ordinary companies.

2.4.4 Overseas Equity-based Crowdfunding Platform Supervision – US

Established in the US in 2010, Angelist is the first equity-based crowdfunding platform across the world that provides a fundamental blueprint for equity-based crowdfunding platforms in other countries (Guo, 2015). If there is no stringent supervision and control over equity-based crowdfunding platforms, they may damage investors' rights for their own good and give rise to the phenomenon of "the market for lemons", which will seriously impact the healthy development of the equity-based crowdfunding industry. Supervision and control over those platforms are of great importance to prevent fraud and safeguard investment rights (Agrawal, Catalini, & Goldfarb, 2013). Equity-based crowdfunding raise funds through transferring a certain amount of shares via Internet-based crowdfunding platforms is similar to equity issuance in essence (Yang & Liu, 2015). No matter what kind of regulatory measures are adopted, all countries in the world take equity-based crowdfunding platforms as the core. Those

platforms are like stock exchanges or brokers because their nature is like that of securities issuance banks. Therefore, many countries compare the supervision and control over equity-based crowdfunding platforms with these security intermediaries.

(I). Supervision over Equity-based Crowdfunding Platforms in the US

In April 2012, President Obama signed the Jumpstart Our Business Start-ups Act (JOBS Act), which will give SMEs in the United States the opportunity to face many new investors and offers an excellent example to the countries with similar problems. Among these, Chapter III of the JOBS Act, known as the Crowdfunding Act, regulates the crowdfunding financing models and amends some terms of the Securities Act in 1993 and the Securities Exchange Act in 1934 (Yin & Zhou, 2014). Chapter III Crowdfunding Act of JOBS Act obtained a lot of attention because it is closely related to the new type of equity crowdfunding in Internet finance. On October 23, 2013, the Securities and Exchange Commission of the United States (SEC) proposed the suggestions of new rules and forms for enforcing Chapter III of the JOBS Act according to the authorization of the JOBS Act. After two years of discussion and modification, SEC finally voted for the final rule, that is, "rules on the issuance and sale of securities through crowdfunding under Section 4(a)(6) of the Securities Act" on October 23, 2015. In general, this rule is referred to as the "crowdfunding rule", which came into force on May 16, 2016. The US is the first country to legislate and legalize equity-based crowdfunding. It supervises equity-based crowdfunding platforms through the specially enacted *JOBS Act*. Its supervisory requirements for those platforms are mainly reflected in the following ways.

1. A non-accredited qualified investors system

The non-accredited qualified investors system is that the investors in equity crowdfunding can be extended to non-accredited qualified investors. In accordance with Chapter III of JOBS Act and "crowdfunding rules", if the annual income or net asset value of the individual investor is less than USD 100,000, then the yearly investment quota for the individual investor can be the larger one between USD 2,000 or 5% of his/her annual income on all crowdfunding platforms; if the annual income or net asset value of the individual investor is more than USD 100,000, then the yearly investment quota for the individual investor can be 10% of his/her annual income or 10% of his/her net assets on all crowdfunding platforms. In addition, the total amount of securities sold to individual investors through all crowdfunding platforms shall not exceed USD 100,000 a year. It means that the policy has lifted the restrictions on small private investors and broke the monopoly of wealthy Americans and institutional investors on equity

investment, and ordinary investors and other social masses can invest in small enterprises with financing needs in all walks of life through crowdfunding.

2. Builds up a reasonable information disclosure system

Information disclosure includes the public issuing price or pricing method of the securities, the amount of the target, the deadline to reach the amount of the target, whether the fundraising companies accept that the investment exceeds the amount of the target, the company's financial statements based on the number of securities issued and sold by the fundraising companies within 12 months and the company's tax return information. Financial statements shall be reviewed by the independent public accountant or audited by the independent auditor. External economic evaluation can be carried out to the enterprises with financing plans in the range of USD 100,000 to USD 500,000, but the audit is not necessary. The enterprises with financing plans for no more than USD 100,000 can submit their own financial statements. The companies with initial public offerings between USD 500,000 to USD 1 million that meet the crowdfunding terms shall provide reviewed financial statements instead of audited financial statements (except those that have been audited).

Due diligence obligations should be imposed upon equity-based crowdfunding dealers or funding portals. Those dealers or funding portals shall investigate the management and investment background and the securities management history of officers, directors and major shareholders in financers to reduce fraud risks borne by investors. Those dealers or funding portals shall also notify equity-based crowdfunding investors or SEC at least 21 days prior to offering. These regulations eliminate the high cost of auditing to small companies.

3. Restrict the capacity of the projects

In accordance with Chapter III of JOBS Act and "crowdfunding rules", start-ups and small enterprises can privately raise no more than USD 1 million per year through the equity crowdfunding model and shall not be publicized through advertising, which can not only control the scale of equity crowdfunding but also reduce the risk of equity crowdfunding. In addition, the social capital can flow to start-ups and small enterprises and small enterprises can raise money from a broad range of individual investors at a low cost by setting an annual financing ceiling of USD 1 million.

4. Specifies the obligations and responsibilities of crowdfunding platforms

The *JOBS Act* stipulates that equity-based crowdfunding platforms shall be registered as broker-dealers or funding portals at U.S. Securities and Exchange Commission (SEC). Such

platforms registered at SEC must abide by supervisory provisions of the Act (JOBS Act 9304). The Act authorizes SEC to formulate specific rules and requires that equity-based crowdfunding dealers or funding portals must disclose transaction risks to and provide educational materials to investors. SEC also stipulates the obligations of such platforms to review investors' investment qualifications and total investment amount and the limit on the total issuance amount of investees via the platform. The US has legalized equity-based crowdfunding and regulated the standardized operation of such platforms (Hogan, 2014).

In accordance with Chapter III of the JOBS Act and "crowdfunding rules", the law explicitly exempts crowdfunding platforms from the obligation to register as securities brokers or dealers. However, the crowdfunding platforms must be registered with and regulated by the SEC. At the same time, the crowdfunding platforms must be registered with corresponding self-regulatory institutions (such as "Financial Industry Regulatory Authority, Inc", referred to as FINRA) and accept the corresponding industry self–regulation. SEC can exert its discretionary power in formulating specific rules and impose more detailed requirements on those platforms. According to the crowdfunding supervisory rules, in order to realize protection of investors' rights, websites registered as dealers or funding portals must guarantee that such investors are well informed of equity-based crowdfunding projects, that they understand the risks involved in their investment, and that they know the particular risks in start-ups or growing small businesses they are about to invest in (Hogan, 2014).

In addition, the law also imposes certain restrictions on the internal personnel of the platforms, mainly including two aspects: first, the personnel are prohibited from providing remuneration to the third-party publicity agency or individual; second, the management layer of crowdfunding platforms is prohibited from obtaining direct economic benefits from business-related parties, which is a further requirement for the compliance of the platform. It can be seen in the Chapter III of JOBS Act and "crowdfunding rules" in the United States, the regulatory system in the United States shall reach two balances: one is the balance between reducing the financing cost of equity crowdfunding projectors and appropriate information disclosure; the other is the balance between reducing the financing difficulty of projectors and moderately protecting investors. The two balances are also the goals to be achieved in the development of equity crowdfunding in China.

The US equity-based crowdfunding act imposes stringent supervision over those platforms to protect equity-based crowdfunding investors. Through legislation, the US has banned certain

conducts of those platforms, such as self-financing, related-party financing, misleading investors, and engagement in transactions between investors and financiers (Gong & Wang, 2015). Those platforms also share the supervisory functions of the government and enhance the self-supervision within the equity-based crowdfunding industry. Through releasing some supervision authority to those platforms, the US has guaranteed the investment safety and the financing convenience of equity-based crowdfunding investors via those platforms. Furthermore, the U.S. Securities and Exchange Commission has also stipulated the liability mechanism of those platforms through detailed supervisory rules. Those platforms must bear legal responsibilities accordingly when they are abusing their power or slack in their duties. The US has legalized those platforms through a new law. Simultaneously, it supervises those platforms stringently to protect the rights of equity-based crowdfunding investors (Baritot., 2013).

2.4.5 Supervision of equity-based crowdfunding Platform– EU/ UK

The fundamental reason for participants of equity-based crowdfunding to have confidence in this financing model is that such platforms can conduct activities in a professional manner (Fan, 2015). There haven't been any unified crowdfunding supervision rules at the EU level yet. The EU mainly regulates equity-based crowdfunding through existing directives (Rothler & Wenzlaff, 2011). Its member states are trying to supervise equity-based crowdfunding behaviours within each of them through unified legislative rules. Apart from existing laws and regulations, each member state is accelerating the formulation of relevant rules to adapt to the rapidly developing equity-based crowdfunding industry. Supervisory modes vary upon national conditions during their process of crowdfunding rule formulation (De Buysere et al., 2012). There are no unified standards even within member states at the EU level. Some states may relax supervision to encourage the crowdfunding industry to develop and to facilitate financing, while others may aggravate the burden upon equity-based crowdfunding platforms to protect investors' rights. The UK has taken the lead in developing equity-based crowdfunding at the EU level. The country has brought those platforms under the existing financial supervision model by guiding them to develop independently (Cheng & Lu, 2014).

On March 6th, 2014, the UK issued *the Supervision Rules on On-line Crowdfunding and Other Means for Promoting Non-readily Realizable Securities* (*Supervision Rules on Equity-based Crowdfunding* for short), which came into effect on April 1st, 2014 and legalized the equity-based crowdfunding in the UK (Guo, 2015). The UK Financial Conduct Authority (FCA) stipulates that equity-based crowdfunding platforms must be registered before they can engage

in equity-based crowdfunding activities in the UK. Platforms engaging in activities other than "supervised activities" are exempt from registration (Gu, 2014). The UK FCA stands as the supervision authority of equity-based crowdfunding activities. The country has no special legislation on equity-based crowdfunding but formulates rules to regulate those platforms' activities. At the end of 2014, the UK FCA decided to continue to revise the existing rules in 2016 after an investigation on equity-based crowdfunding. The country will still maintain the existing financial authority to enhance the supervision over those platforms and the protection of its investors' rights.

Due to the lack of unified crowdfunding legislation or rules at the EU level, most crowdfunding platforms in the UK, such as Crowdcube, the largest equity-based crowdfunding platform in the UK, are restricted from issuing equity-based crowdfunding projects to states unregistered on those platforms (Rothler & Wenzlaff, 2011). The UK FCA has also established the minimum audited capital standards for those platforms, the customer fund protection rules and the information disclosure system and stipulated the information reporting system for those platforms. They shall endow their investors with a right to cancel contracts (the right to regret) and establish the dispute settlement mechanism after equity-based crowdfunding bankruptcy and the information disclosure system for those platforms (Yang & Wen, 2015). The British supervisory rules require those platforms to disclose their information in two respects: the first, is information concerning equity-based crowdfunding platforms themselves; the second, is information on investees provided by those platforms (Y. Zhang, 2014).

The UK requires its equity-based crowdfunding platforms to develop on their own through special approval to platforms that replaces the procedure of a one-by-one approval system and individual license. British government conducts relaxed supervision over those platforms and encourages self-discipline in the industry. Those platforms should fulfil obligations according to stipulations of FCA. For example, those platforms shall not conduct financial promotion services without permission but shall establish proper management systems for their investors and inform them of any risk. However, the British government has not clarified how those platforms should determine the eligibility of investors, nor the legal liabilities those platforms should bear if their investors are not eligible (Cheng & Lu, 2014). The government encourages those platforms to find their own solutions to defuse risks rather than impose mandatory regulations to allow full play to industry self-discipline. For example, Crowdfunding Association has put forward the separated operation to ensure information security, the implementation of funding freeze period, and the addressing of customer complaints about

those platforms. The supervision model for the British equity-based crowdfunding platform is typical and representative within the EU.

2.5 Legal research of equity-based crowdfunding (International and China)

Since crowdfunding originated in the United States and is most developed there and in Europe, the research of the discipline is also extensive and numerous in these areas. Research on equity-based crowdfunding in other countries started earlier than in China, and the main aspects of the research focus on economics and finance itself and the legal supervision of equity-based crowdfunding. Subject to the influence of the country's legal tradition, crowdfunding supervision mainly uses case law as the handling principle, and the supervision history has also undergone profound changes. Most of the foreign research is positive research, but there are no mature research results on macroscopical and interdisciplinary issues. In this chapter, we mainly go through the representative research results of the United States and the European Union and draw lessons from the research of the United States and the European Union on the protection of investors' rights in equity-based crowdfunding to bring enlightenment to the relevant research in China in the future.

2.5.1 Legal research on the protection of investors' rights in Equity-Based Crowdfunding in the United States

Since the establishment of IndieGoGo in 2008 and the Kickstarter crowdfunding platform in 2009, the development of crowdfunding has received extensive attention and research from the U.S. government and scholars in the United States. Therefore, after President Obama promulgated the JOBS Act in 2012, many American scholars have conducted research on the Act and the protection of investor rights, and their views are divided into two factions. A group of scholars represented by Luis A. Aguilar (2013), a member of the U.S. Securities and Exchange Commission, John Coates (2013) and Lina Jasinskatie (2013), professors at Harvard Law School, believe that the JOBS Act in the United States cannot effectively protect equity-based crowdfunding investors.

On the contrary, it will hurt the rights of equity-based crowdfunding investors and hinder economic growth and will not increase employment opportunities. In his statement letter to the US Congress, US SEC Commissioner Luis A. Aguilar believes that actual capital formation requires strengthening the protection of investors - from the perspective of the JOBS Act. In the letter, Commissioner Luis A. Aguilar argued that the current JOBS Act weakens the supervision of investor protection. This act increases the investment cost of equity-based

crowdfunding investors and reduces the potential benefits of equity-based crowdfunding investors. The committee believes that the JOBS Act reduces transparency and investor protection and, therefore will seriously damage investors' rights and make the enforcement of the securities law more difficult at the same time. The formation of real capital and economic growth require investors to have confidence in the capital market, and investors also need to be able to obtain sufficient information to make wise investment decisions. Also, he believes research results that information disclosure and supervision of capital markets can promote rather than hinder the formation of capital. Regulatory compliance costs are not the reason for the decrease in IPO activities in the past decade, and there is no requirement or incentive for issuers to use the capital they raise to expand the scale of the company or create more jobs in the United States. John Coates (2013), Professor of Harvard Law School, also believes that although the JOBS Act is characterized as reducing the burden and cost of supervision, it brings the cost of fraud risk and the cost of information asymmetry. Jasinskatie (2013) also argues that the income cap of the JOBS Act does not really protect investors. She demonstrates that setting the investment cap by setting the investor's income percentage or net worth will not protect investors at all and analyses the potential problems of the investment cap regulation on the investor protection mechanism and believes that setting the investment limit too high cannot effectively prevent fraud risks.

On the other side, the viewpoint represented by Jacques F. Baritot (2013) of the University of California believes that the JOBS Act expands the small business by cutting taxes, thereby enabling small and medium-sized enterprises to increase wages and create good jobs. The exemption measures also allow more companies to raise funds through crowdfunding. However, some critics believe that the JOBS Act was formulated too hastily and is not suitable for protecting investors, Baritot. (2013) believes that the US Securities and Exchange Commission has the right to enforce the JOBS Act, which can better protect the rights of equity-based crowdfunding investors by filling in regulatory gaps and policy formulation, and that act itself does not affect the positive effect of the JOBS Act on investor protection. Mary Schapiro (2013), a former member of the US Securities and Exchange Commission, also believes that the JOBS Act has learned lessons from previous exemptions and established a new exemption clause for investor protection.

The United States has always attached great importance to the protection of securities investors as a long of historical tradition, the United States has gradually established a sound investor protection framework system. This system can be traced back to the Securities Act of 1933,

which established a mandatory information disclosure system and introduced private securities litigation relief rights. Subsequently, the United States enacted the Securities Exchange Act in 1934, the Securities Investor Protection Act in 1970, the Sarbanes-Oxley Act in 2002, and the Dodd-Frank Act in 2010. Although the JOBS Act's protection function for crowdfunding investors has been controversial by domestic scholars in the United States, its influence and far-reaching significance are undoubtedly a historical inheritance and inevitable requirement in the world's financing history.

Most research on the protection of the rights of crowdfunding investors in the United States is carried out from the perspective of the JOBS Act, including the supervision of equity-based crowdfunding platforms, the regulation of the issuance of equity-based crowdfunding securities, the information disclosure obligations of financiers, and the protection of equity-based crowdfunding investors. The research on equity-based crowdfunding in the United States is divided into two stages. The first is to discuss the feasibility, legality, and investor protection of the JOBS Act before its promulgation. As early as 2011, Ley. and Weaven. (2011) conducts an investigation and research on the emergence of crowdfunding and analysed various situations of equity-based crowdfunding. Bradford (2012) also studies the relationship between the Crowdfunding Act and the Federal Securities Law before the promulgation of the Crowdfunding Act. He points out that crowdfunding encounters two problems under the federal securities laws: Whether the registration needs to be exempted, and whether the equity-based crowdfunding platform can be used as a dealer or whether it can give investment advice. In the end, he concludes that crowdfunding should be exempted from the perspective of cost savings and the benefits of crowdfunding. Sigar (2012) argues that modern investors are entirely different from those in the 1980s. Due to the nature of the Internet and the protection of statutory laws, the new crowdfunding exemption will not cause investor protection issues that people are worried about.

In the earlier studies when the JOBS Act promulgates, scholars were already aware of the importance of social media during the process of crowdfunding, and the complexity of its role plays in the current online financial market. Schwartz (2013) discusses the legalization process of crowdfunding securities in his study in 2013; he points out that crowdfunding securities bring two consequences to securities laws and capital markets: one is that start-ups can raise low-cost financing through social media or the Internet; the other is that the phenomenon makes capital market becomes popular and democratized, making the investment only enjoyed by the rich ("accredited investors", that is, mature investors) goes to the general public. Heminway

(2014) studies the role of information disclosure in investor protection and market protection.

Hogan (2014) analysis suggests equity-based crowdfunding under the JOBS Act is an invalid compromise against the proposed rules of the Securities Regulatory Commission. Ahlers et al. (2015) believes that investing in equity-based crowdfunding should judge the company's situation from the internal information of the financing company rather than through external certificates. The key to the success of equity-based crowdfunding depends on the company's financial status, risk factors, and internal governance issues. After the promulgation of the JOBS Act, many scholars in the theoretical and practical circles have emerged to study equity-based crowdfunding investor protection based on the promulgation of the JOBS Act. The research focuses mainly on how to balance investor protection and reduce financing costs for financiers, how to implement appropriate supervision of equity-based crowdfunding, how to set pertinent information disclosure obligations, and how to achieve the purpose of protecting investors through the setting of investor access thresholds in the current Internet environment. This is also worth for the crowdfunding researchers in China to explore in future research.

Ralcheva and Roosenboom (2016) are optimistic that the United States is on the road to success in equity-based crowdfunding. At present, there are numerous articles on the protection of equity-based crowdfunding investors, and monographs on the protection of equity-based crowdfunding investors are gradually appearing, one of which is undoubtedly “Equity-based crowdfunding for Investors: A Guide to Risks, Returns, Regulations, Funding Portals, Due Diligence, and Deal Terns” (WILEY) published by David M. Freedman and Matthew R. Nutting in 2015. This monograph covers everything from the definition of equity-based crowdfunding related terms to the establishment of online equity-based crowdfunding and from how angel investors invest to equity-based crowdfunding platforms to fulfil their diligence obligations, enabling readers to fully understand the equity-based crowdfunding investment process. However, the shortcoming of this monograph is that it does not provide a set of plans on how to protect the rights of equity-based crowdfunding investors from a legal perspective. It is only a practical and operational monograph rather than a legal monograph.

Other monographs mainly discuss the practical aspects of equity-based crowdfunding, and there is a lack of legal monographs on the protection of the rights of equity-based crowdfunding investors. There are also numerous papers on equity-based crowdfunding, most of which are about the development of equity-based crowdfunding, the benefits of equity-based crowdfunding , the operating model of equity-based crowdfunding, the legislative process of

the JOBS Act, and the impact of the JOBS Act, which cannot be listed all here.

2.5.2 Legal Research on the Protection of Investors' Rights in Equity-Based crowdfunding in the European Union

The European Union (EU) attaches great importance to the development of enterprises, especially the employment level of small and micro-enterprises. The EU has formulated the 2020 strategy, and crowdfunding has become an important part of it. While the development speed of crowdfunding is accelerating in Europe, it also brings potential regulatory challenges, which has aroused the attention of regulatory authorities in EU countries. ECN, the European Crowdfunding Network, is the largest of its kind in the European Union. Based on a thorough investigation of the equity-based crowdfunding business in European countries, the network released a report entitled “Crowdfunding Regulatory Review: Interpretation of the Current Crowdfunding Regulatory System in Europe, North America, and Israel” in 2013, introducing the situation of European countries in this field. Also, in 2013, the European Commission published a consultation on “Crowdfunding in the EU: Exploring the Potential Added Value of EU Action” (the Consultation); and all views on the origins, implications, advantages, risks and rewards, regulatory requirements and pitfalls of crowdfunding are welcomed. The parties include: “anyone” such as financiers, investors, government departments, academic groups, and related organizations.

This approach aims to explore the possibility and prospects of coordinating the relevant regulatory practices of various member states in the European Union. In March 2014, the EU further issued a "Summary Report" related to this. There are currently no relevant monographs on equity-based crowdfunding within the EU and only a few papers on equity-based crowdfunding, some of which involve the legal protection of equity-based crowdfunding investors. European crowdfunding research mainly focuses on the following aspects. First, is an introduction to the EU crowdfunding program framework and basic knowledge of equity-based crowdfunding. It is representative research is the European Expert Network Culture (EENC) report “Crowdfunding Scheme in Europe (European Crowdfunding Scheme)” written by Rothler and Wenzlaff (2011). This report covers crowdfunding, European innovation departments, the legal connotation of crowdfunding, social responses and suggestions in detail, and there is a section in the legal purpose that mentions investor rights protection and supervision of crowdfunding. This article emphasizes the protection of investor's personal data (protection of names, addresses, bank data) and privacy rights.

Crowdfunding platforms are required to comply with EU privacy and payment directives, as

well as national domestic legislation. The platform needs to provide a privacy outline to show that it complies with laws and regulations. De Buysere et al. (2012) introduce in detail in the article "A Framework for European Crowdfunding" what is crowdfunding, how crowdfunding is operated, the challenges faced by crowdfunding, the European crowdfunding market, the policy, legislation and supervision of the European crowdfunding, and the pillars of crowdfunding, drawing a complete picture of the entire crowdfunding framework in Europe. A part of the content involves the legal protection of investor rights. The expert group called for encouraging the development of European crowdfunding, avoiding over-regulation, and adequate protection for investors and companies.

Hollow (2013) in the article "Crowdfunding and Civic Society in Europe: A Profitable Partnership?" discussed the merits of online crowdfunding platforms. He believes that these financing websites have potential contributions to the development of European society, and the government should support and encourage the development of online crowdfunding platforms and use them as the basis for the development of the European democratization and integration framework. There is very little research on equity-based crowdfunding and the protection of investor rights in the EU, and most of them stay within the framework of the rules. Its research on equity-based crowdfunding and the protection of investor rights is also the same as that in the United States, which basically focuses on the setting of investor access thresholds, the information disclosure obligations of financiers, and the supervision of equity-based crowdfunding platforms.

2.5.3 The current temporary regulation of equity crowdfunding in China

In December 2014, based on practical and regulatory needs and with the support of the Innovation Business Supervision Department of China Securities Regulatory Commission, the Securities Association of China drafted *Measures for the Administration of Private Equity Crowdfunding (Trial) (Draft for Comments)* and solicited public opinions. China has not promulgated formal laws and regulations to regulate equity crowdfunding; however, as a self-regulatory organization in China's securities industry, the Securities Association of China's *Opinion Draft* reflects the future regulatory thoughts on equity crowdfunding in China to some extent. The main contents of *Opinion Draft* include the following aspects.

(1) Defines the nature of equity crowdfunding: Article 2 of *Opinion Draft* clearly stipulates the private nature of equity crowdfunding , which adopts non-public issuance method to meet the relevant provisions of Article 10 of the *Securities Act* on non-public issuance through a series

of self-regulatory requirements: the investors are specific, that is, the users registered in real name who are not approved by the equity crowdfunding platforms or not meet the requirements stipulated in the *Opinion Draft* are not allowed to participate in the investment of equity crowdfunding projects; even the qualified investors shall not exceed 200 people; the platforms can only recommend the project information to the users registered in real name but cannot publicize or promote the projects publicly.

The core of the non-public issuance system is the audit exemption. The overall thought of the non-public issuance system of securities is that the issuer shall conduct self-audits, and in principle, the securities can be issued without the examination and verification of regulatory authorities. Compared with public issuance, non-public issuance has the following advantages: first, the cost is relatively small. The non-public issuance does not require complex approval procedures, and there are no strict information disclosure requirements, so the SMEs can save the expensive intermediary fees and easier to get the business started. Second, it is more efficient. The non-public issuance can not only save the long approval process of public issuance but also make the transactions more flexible and fast because of the special relationship with the investors. Third, it is more controllable. Non-public issuers of the securities will control the type, quantity, issuing objects, conditions requiring a commitment of the third party and even the price of securities (H. Liu & Wang, 2018).

(2) Clarifies the definition and access threshold of equity crowdfunding platforms

Opinion Draft defines the equity crowdfunding platform as an intermediary that provides the information, demand docking for financing parties and assists in fund transfer. *Opinion Draft* limits the type of fund-seekers, which means that the equity crowdfunding platforms shall only serve small, medium and micro-sized enterprises. Crowdfunding projects shall not have a financing quota, which means the full risk is shared by the projectors and investors, and platforms shall be subject to the record registration system in the Securities Industry Association. In addition, *Opinion Draft* also regulates the access threshold of the platforms, requires that the net assets of the companies or the partnership set up in accordance with the law shall not be lower than RMB 5 million and requires suitable professional talents, and requires filing with China Securities Regulatory Commission. These conditions will surely weed out some weak platforms and ensure the professionalism and competitiveness of platforms and help to protect the investors' rights.

(3) Regulate the standard of qualified investors

The investors must be verified by their real names and approved by the platforms. The specific standards of qualified investors shall mainly refer to the relevant requirements of *Interim Measures for the Supervision and Administration of Private Investment Funds*. At the same time, the range of investors has increased to "the individuals whose financial assets are not less than RMB 3 million or the average annual income is not less than RMB 500,000.00 in recent three years". On the one hand, the mass investors shall avoid undertaking the investment risks that do not match their risk tolerance; on the other hand, the financing demands of small, medium and micro-sized enterprises shall be satisfied through getting qualified investors.

(4) Regulate information disclosure obligation of financiers and investor protection

Opinion Draft requires that the financing enterprises shall be small, medium and micro-sized enterprises, does not limit the amount of investment, stipulates the responsibilities of financiers in equity crowdfunding activities, emphasizes the appropriate degree of information disclosure obligations, requires the fund-seekers to provide real and accurate information and discloses the information to the investors in accordance with the agreement. *Opinion Draft* has three main aspects in terms of investor protection: first, the access threshold of the investors is specified, and the investors can participate in the investment only after approval of the platforms, thus the ordinary investors who cannot bear investment risks will be excluded. Second, starting from the self-regulatory management of the platform, the platform is required to register with the Securities Industry Association, apply to become a member of the Securities Industry Association, arrange the specific institution to record and monitor the financing business of the platforms and clearly list the prohibited behaviours on the platforms. At the same time, *Opinion Draft* regulates the access threshold of the platform, and it has certain requirements on the net assets and professional ability of the platform, which will improve the professionalism and anti-risk ability of the platform. Third, the information disclosure obligation of the projectors shall be strengthened according to the agreement(X. M. Liu, Huang, & Yeung, 2018).

2.5.4 Prohibited Acts and Legal Liability in China

In China, the prohibited acts of equity crowdfunding financiers are mainly stipulated in Article 13, as follows. First, equity crowdfunding financiers are required to abide by the principle of honesty and integrity and not to issue fraudulently; second, equity crowdfunding financiers are prohibited from making promises to equity crowdfunding investors, promising minimum

returns or guaranteeing that their capital will not be lost; and third, equity crowdfunding financiers are also prohibited from publishing information in any public place other than equity crowdfunding. However, equity crowdfunding platforms do not provide for liability for violations of these rules.

Fraudulent issuance is a core provision in national securities offerings, as fraudulent issuance is severely frowned upon and prohibited in the securities market and needs to be firmly eliminated in the equity crowdfunding market. Therefore, equity crowdfunding financiers should not use the equity crowdfunding platform to raise funds from the public through fraudulent projects. However, there is no legal liability for fraudulent issuance in the Draft.

In response to the restrictions in the equity crowdfunding and P2P markets, the promise of guaranteed returns is also an act of luring investors by certain financiers or equity crowdfunding platforms to attract investors. In essence, equity crowdfunding is a form of investment, and the risk and possibility of failure are incredibly high. When financiers promise investors a guaranteed return on their capital to raise the required funds without regard to the reality of the situation, there will be a substantial negative effect if the project fails. On the one hand, financiers and equity crowdfunding platforms face the problem of rigid payments, and on the other hand, equity crowdfunding investors may not get back their principal and returns, which will bring about a substantial psychological gap and risk tolerance. There is an arguable need to prohibit the promise of capital preservation for equity crowdfunding by financiers and platforms. However, although the draft provides that financiers are not allowed to make capital preservation promises, it does not provide for legal liability for violations of its provisions, making it difficult for investors to defend their rights if an equity crowdfunding financier promises capital preservation and ultimately faces project failure.

As for the choice of financing platform, there is no provision in the *Draft for Public Comments* as to whether equity crowdfunding financiers can only choose one platform for financing at different times or whether they can finance from multiple platforms (Liang, 2013). When equity crowdfunding platforms carry out equity crowdfunding financing activities, they can make public comments and exchange information with each other on the Internet. When financiers can raise funds through different equity crowdfunding platforms, this can lead to a fragmentation of information, which is not conducive to information exchange and communication among many investors. Moreover, if financiers raise funds through multiple equity crowdfunding platforms, they have no control over the scale and frequency of financing.

Therefore, it is crucial to substantively review the financing profiles of equity crowd funders to avoid such restrictions being a mere formality. There is no data sharing mechanism among equity crowdfunding platforms in the process of implementation, and it is difficult to operate because there is no synchronized data sharing mechanism for equity crowdfunding financiers to raise funds on different platforms at the same time. Moreover, the Draft does not provide for the legality of equity crowdfunding for the same project on other platforms at other times. Nor does it provide for specific legal liability for equity crowdfunding financiers who raise funds for the same project at the same time or for the same project on multiple platforms at different times. In addition, there is no provision in the RFP that allows a financier to advertise a crowdfunding project during the financing process.

The JOBS Act prohibits advertising the contents of an offering during an equity crowdfunding financing, except to notify investors or the crowdfunding platform of the equity crowdfunding project and prohibits an equity crowdfunding financier from paying others to promote the crowdfunding project, except to the SEC or if the person has been paid. In the U.S., Regulation D prohibits public solicitation or advertising, but the JOBS Act breaks this restriction by allowing equity crowd funders to publicly advertise through media such as websites, newspapers, or television, provided that the purchaser is a qualified investor. However, the JOBS Act imposes certain restrictions on advertising, i.e., the content of the offering itself may not be advertised, which is a flexible set of provisions that not only facilitates equity crowdfunding but also protects the rights of equity investors. Although China does not have clear rules on advertising, private equity crowdfunding in China is currently limited to private equity financing, and private funding itself is prohibited from being advertised through public media such as advertisements, but only social media is allowed, such as Weibo and WeChat. Moreover, if China's equity crowdfunding becomes exempt from registration in the future, as is the case in the United States, advertising must be regulated to better protect the rights of equity crowdfunding investors. Therefore, the legislation should be forward-looking and should consider the prohibition of such conduct when developing future public equity crowdfunding legislation**.**

2.6 The development dilemma of equity crowdfunding in China

2.6.1 Legal risks of equity crowdfunding in the current legal environment of China

At present, China has not formulated or promulgated special laws to regulate the financing model of equity crowdfunding at the national level, so we need to regulate equity crowdfunding according to the current laws. It mainly includes two aspects. First, there is stipulation that

equity crowdfunding may be involved in the illegal public issuance of securities, and the capital contribution shareholders may exceed the limit of 200 people or 50 limited partners in accordance with the relevant provisions of the Securities Act, the Company Law and the Partnership Enterprise Law. Second, there is a stipulation that equity crowdfunding may violate the legal red lines of "illegal fundraising" crimes such as the crime of illegally absorbing public deposits (Zhang, 2015). China has strict control over the conduct of public share issuance, and strict control of operation mode of equity crowdfunding or special methods shall be adopted to avoid legal restrictions in practice. However, these methods are often subject to significant legal risks. Under the regulation of the Securities Act, the Company Law and the Criminal Law, the development space of equity crowdfunding has been dramatically reduced, and it often walks in the grey area of the law. This situation is not conducive to the long-term development of equity crowdfunding and the protection of investors' rights and interests. In China, due to these policy constraints, SMEs consequently experience a more severe financial environment (Tang, 2011).

Under the current legal restrictions in China, there are three main risks for equity crowdfunding entrepreneurs.

(1). Risk of illegal fundraising

In China, equity crowdfunding is easy to causes legal risks because it does not comply with the provisions of the current law, and the primary risk is the risk of illegal fundraising. (X. M. Liu et al., 2018). According to the current Chinese regulation, illegal fundraising includes two significant changes: one is a crime of illegally absorbing the public deposits, and the other is a crime of fundraising fraud. The characteristic of the crime of illegally absorbing public deposits is that it absorbs funds from the public without authorization by the People's Bank of China and finally causes economic losses to the public. The crime of fundraising fraud is an even more serious offence. Its outstanding characteristic is that the purpose of fundraising is to get illegal possession by using the fraudulent method, fabricating the use of funds and defrauding public property.

In China, the act of absorbing funds from the public (including units and individuals) in violation of the provisions of national laws on financial management and meeting the following four conditions at the same time shall be deemed as "illegal absorption of public deposits or absorption of public deposits in a disguised way" as stipulated in Article 176 of the criminal law, unless otherwise provided in the criminal law: (I) Absorb the funds without the approval

of the relevant departments in accordance with the law or in the form of legitimate operations; (II) Publicize to the public through media, introduction and marketing event, leaflets and mobile phone messages; (III) Promise to repay principal and interest or to make returns in the form of currency, physical objects or equity within a certain period; (IV) Absorb the funds from the general public, that is, from non-specific objects of the society." However, equity crowdfunding may meet the four conditions quickly. Thus, the crime of illegally absorbing public deposits will be constituted. If the founder takes the illegal possession as the purpose, then the crime of fundraising fraud will be formed.

Therefore, to avoid the risk of overseeing illegally fundraising, in practice, equity crowdfunding platforms often avoid the fourth condition by setting up a membership registration and verification system on the platform. That is, the investors shall be ally specified through the method of qualified membership. Meanwhile, many equity-based crowdfunding platforms try to avoid the provisions for raising funds from the 'non-specific' public through an email invitation, social networks or the mode for inviting the specific investors to have offline communication when the investors buy other wealth management products, and then the investors decide whether to invest or not (He, 2015).

There are two different views in the theoretical community regarding the eligible financing subjects. One view is that the threshold of entry for equity crowdfunding financiers must be start-ups or micro, small, and medium-sized enterprises. The initial goal of equity crowdfunding is to solve the financing difficulties of emerging enterprises, and it is suggested that market access for equity crowdfunding financiers must be based on a combination of physical and procedural reviews. Crowdfunding financiers should be defined as small and medium-sized enterprises that have been established for less than two years or are in the process of initiating their establishment, and the scope of equity crowdfunding financiers should be strictly limited to the seed stage of start-ups to avoid differentiating the financing scope of financiers from that of micro, small, and medium-sized enterprises with financing difficulties in the new second board.

According to another view, equity crowdfunding financiers are not necessarily restricted to micro, small, and medium-sized enterprises or promoters only. As Q. Wei and Lv (2015) argue that although the original purpose of equity crowdfunding platforms is to serve micro, small, and medium-sized enterprises, equity crowdfunding services should not be identified by the size of the enterprise but rather by the financing of the enterprise itself. Assuming the fact that

equity crowdfunding is restricted to micro, small, and medium-sized enterprises or promoters only, it will artificially limit the growth of the equity crowdfunding industry. According to Q. Wei and Lv (2015), many of the equity crowdfunding projects have raised more than 10 million RMB and even larger ones.

However, so far, China has not formally enacted and promulgated laws to recognize the legitimacy of equity crowdfunding and establish a corresponding regulatory legal system to it; therefore, the risk of equity crowdfunding to constitute the crime of illegal fundraising is still existing. The unclear legal provisions will inevitably affect the development of equity crowdfunding in China.

(2). Risk of unauthorized issuance of shares

The crime of unauthorized issuance of shares is another big issue of the legal risks of equity crowdfunding in China, which also belongs to the crime of illegal fundraising. The kind of risk mainly constitutes the crime of unauthorized issuance of shares or bonds of companies and enterprises, which is stipulated in Article 179 of the Criminal Law. In accordance with the provisions of Article 6 in Interpretation of the Supreme People's Court on the Specific Application of Law in the Trial of Criminal Cases of Illegal Fundraising, there are two red lines of this crime: first, unauthorized public issuance and the non-specific objects are involved, and the number of investors is not limited; second, assignment to the specific objects but there are more than 200 people. The model of equity crowdfunding first determines that the number of investors in a project is easy to exceed the limited number of shareholders. At the same time, these investors are easily identified as "non-specific objects" because they are in different places and do not know each other.

At present, to avoid hitting the overhead red lines, the equity crowdfunding platform usually adopts both online and offline operations. Investors can only express their investment intentions through online channels and form an investor community through online or offline channels, which means not everyone can participate in community activities. The platform also carries out a strict audit to the investors. The investors who fail in the auditing will not see the project financing information, but only a simple project introduction, and cannot access the community discussion. In the investor community, the investors can discuss which project they prefer to participate in and determine which project to jointly invest in, and then end the investment through the traditional equity investment model (X. M. Liu et al., 2018). In this way, crowdfunding platforms just act as "matchmakers" for the projectors and investors. In

addition, to avoid hitting the provisions of non-specific objects in the law, crowdfunding platforms will also make investors specific through real-name authentication and investor qualification examination. However, it is still doubtful whether this measure can help achieve the effect of transformation. To avoid exceeding the legal limit of 200 people, some platforms also complete the financing target by raising the minimum investment limits for investors.

(3). The confidential commercial risk

As a kind of intangible assets, trade secrets can bring substantial competitive advantages and benefits to enterprises, which are the effective weapon for enterprises to overcome the competitors and win in the fierce market competition, and they are also the important symbol of enterprises' innovation ability (Liu & Yang, 2015). At present, most of the projectors of equity crowdfunding attract investors with creative ideas or new intelligent products. When a project initiator has a good product idea and wants to finance through equity crowdfunding platforms, the appearance pictures, design ideas, use details and technical details of products shall be published on the crowdfunding platforms to attract investors' attention.

In the current stage, China's laws on the protection of trade secrets are not perfect, and there is an absence of atmosphere for the protection of commercial confidentiality, therefore, it is easy to get the project information of the projectors through the platform and good ideas are easy to be copied and imitated by others. Especially some high-tech projects, which will lose their core competitiveness in the market once the product idea is plagiarized by some people and sold in the market by taking the lead in mass production. However, the product returns of the project contributors after the contribution are not the latest creative products and may even be outdated products. In addition, there are risks that crowdfunding platforms will be hacked, and the trade secrets of the start-ups will be stolen, revealed, or used. All these will lead to the final failure of the project, damage the interests of investors, and discourage entrepreneurs, which are not conducive to the development of domestic crowdfunding.

2.6.2 Limitations of current temporary regulations of Equity-based Crowdfunding in China

As mentioned in the literature reviews, the publication of Opinion Draft shows that China's regulatory authorities began to regulate the industry. From the long-term perspective, it will change the disordered and chaotic situation of the whole crowdfunding industry, and it will be conducive to the development of equity crowdfunding in China. However, some aspects of Opinion Draft are also criticized by the industry insiders, which can be improved in future crowdfunding legislation.

(1) The qualification standards of the investors

In accordance with Article 14 of Opinion Draft on the scope of investors, if the individual investors want to participate in the investment of equity crowdfunding, their minimum financial assets shall not be less than RMB 3 million or the average annual income is not less than RMB 500,000.00 in recent three years, and they are required to have the ability to identify, judge and bear corresponding investment risks. The starting point of Opinion Draft is to exclude the investors with low-risk tolerance by improving the threshold of qualified investors, which is a kind of measure to protect investors. However, crowdfunding projects usually start with a low threshold and a small amount; setting such a high threshold will exclude most potential investors. It is because many small private capital investors cannot meet the high standard. Meanwhile, the equity crowdfunding projects are often in a business' initial stage, so whether it can attract high net worth individuals with an average annual income of RMB 500,000.00 is uncertain. The lack of participation of small private investors will not be conducive to helping the development of small, medium and micro-sized enterprises, and equity crowdfunding will lose its most attractive advantages.

(2) The access conditions for equity crowdfunding platforms

Article 7 of Opinion Draft regulates the access conditions of equity crowdfunding platforms, which regulates the organizational form, net assets, professional personnel and management system of the platforms. It requires that the net assets of the platforms shall not be lower than RMB 5 million. According to the current situation of equity crowdfunding in China, it is too harsh to set such a high entry condition. Since the establishment of the two earliest equity crowdfunding platforms, "Angel Crunch" and "Venture Capital Circle" in China in 2011, there have been more than 50 equity crowdfunding platforms in China today, but 80% of platforms were established after 2014 (Chen, Chen, Chen, & Xie, 2018).

As a new idea, the industry has not been fully developed because of the single profit model. The equity crowdfunding platforms need the support and encouragement of the regulatory authorities. However, the threshold of RMB 5 million is an implicit blow to the platform, which is contrary to the status of the Internet economy and the connotation of encouraging innovation and entrepreneurship by the state (Zhang & Hao, 2017). It can be found from the contents of Opinion Draft that, as an intermediary, the platform does not involve its own funds in the crowdfunding process. As well, the guaranteed funds of the platform can be minimized in the

case of third-party custody of investor funds, so the platform does not actually need too many net assets.

Some scholars argue that China lacks the grounds for those platforms to develop at present. So, it is appropriate to position those platforms as intermediaries, while other scholars oppose this opinion and give their reasons (which have been discussed earlier). There are also opinions that China should securitize equity-based crowdfunding, endow those platforms with the status and the essence of securities dealers, and legalize those platforms by learning from the US. Scholars against this idea argue that it is not suitable for China to securitize equity-based crowdfunding because we lack mature equity-based crowdfunding investors and a complete capital market for equity-based crowdfunding securities. Therefore, China it is argued should position those platforms as special institutions that offer financial services and bring them under the regulation of existing economic law by learning from the UK. Some scholars argue that we should establish an "over-the-counter securities transaction centre" to supervise and normalize the status of those platforms by learning from Taiwan Province. Opponents hold that there is still a large distance between the "great securities market" of Taiwan Province and the equity-based crowdfunding of the US. Platforms in Taiwan only provide "equity financing" and counselling functions. There is no direct transaction function. Furthermore, restrictions on investors are not flexible enough and some stipulate a maximum investment of TWD 60,000 yuan (Cheng & Lu, 2014).

There are still controversies over the essence and the legal status of equity-based crowdfunding platforms in China. It's suggested herein that those platforms should be regarded as the special Internet-based financial institutions with the nature of financial service, so they are more appropriate to be treated as Internet-based financial organizations specializing in "equity-based crowdfunding services". This positioning is closely related to not only the business and financial activities of those platforms but also the fact that they are different from those ordinary intermediaries or agencies.

(3) The determination of the qualifications of equity crowdfunding financiers

According to the < Opinion draft >, equity crowdfunding financiers must be authenticated by the equity crowdfunding platform if they want to raise funds from investors through the platform, but the Draft for Public Comments does not specify the way to review and determine the eligibility of equity crowdfunding financiers. There has been a wide range of opinions on whether to conduct a procedural or substantive review of financier eligibility. On the one hand,

the procedural review is easy to operate, but it is difficult to control the risk of financing projects and is not conducive to the protection of the rights of equity crowdfunding investors. On the other hand, while a substantive review reduces the efficiency of financing, increases the cost of financing, and increases the burden on the equity crowdfunding platform, it is more conducive to the protection of the rights of equity crowdfunding investors.

When discussing what kind of review should be adopted, there is one thing that need to be taken into consideration is that naturally, there should not be a one-size-fits-all approach but also a more flexible approach. From the perspective of balancing the interests of financiers, equity crowdfunding platforms and investors, the policymaker can classify a financing amount. For example, regulations could be established to allow for a formal review of private equity crowdfunding for financing amounts below RMB 5 million, while a substantive review would be required for financing amounts above RMB 5 million and be recommended for public equity crowdfunding. Regarding the former, only the financier is required to provide complete written project materials, and investors are clearly informed of the procedural review process; this process can be done by passing the platform's certification and registration, and investors are reminded to pay attention to risk prevention during the investment negotiation process with the financier. For the latter review, the platform must not only submit written documents through the platform's real-name registration but also conduct a substantive review by interviewing financiers or through site visits to better protect investors. However, the scope of "procedural review" and "substantive review" as well as the responsible parties are not stipulated in China's Draft for Public Comments.

Internationally, there are currently different approaches to determining whether a financier is eligible for equity crowdfunding under a registration, approval or filing system. According to the JOBS Act in the United States, if the issuer or seller takes reasonable steps to prove that it is a qualified investor, it is legally exempt from registration and can sell securities to the public. The JOBS Act provides a new way for private companies to raise capital from the crowd without registering with the SEC; they act as a platform through an intermediary registered with the SEC as a broker. The U.S. has adopted a small public offering registration exemption, which allows a private company to register with the SEC if the total amount raised does not exceed $1 million in a 12-month period. The U.S. registry system for qualifying financiers is consistent with the U.S. securities offering. This exemption for small public offerings in the U.S. provides a convenient and fast way for SMEs to raise capital, reduces the cost of financing, and improves the efficiency of funding, allowing private companies with less than $1 million

in annual funding to raise funds from the public by simply registering with the SEC as a broker on their website, thereby exempting them from registration with the SEC.

In 2014, the UK published the Regulatory Rules on Online Crowdfunding and Issuance of Non-Convertible Securities by Other Means, which set out the main rules for equity crowdfunding. The document gives full recognition to the new approach of crowdfunding, providing companies with more options for financing than banks and venture capital. In contrast to the U.S. registration system for equity crowdfunding, the U.K. has an approval system, which is a different approach. According to the UK FCA, equity crowdfunding must be licensed by the FCA. Therefore, to raise equity crowdfunding funds from investors in the UK, an equity crowdfunding financier must register on an FCA-licensed equity crowdfunding platform and be certified by the platform before raising equity funds (Fink., 2012).

At present, China adopts a platform certification-plus filing registration system for the qualification of equity crowdfunding financiers. If an equity crowdfunding financier wants to engage in equity crowdfunding, the financier must first pass the qualification of the equity crowdfunding platform, and the equity crowdfunding platform must register with the Securities Industry Association and apply for membership in the Securities Association of China to operate the equity crowdfunding business. The adoption of registration and record registration for equity crowdfunding puts China's equity crowdfunding financiers in an awkward position, as it makes it inconsistent with the current administrative approval system for public offerings of securities in China and it is hard to achieve the exemption from approval. In addition, there is a disadvantage that it conflicts with the public offering and the number of issuers under the Company Law and the Securities Law, which can easily fall into the criminal jurisdiction of illegal public deposit-taking or illegal issuance of shares if not careful (Guo, 2015). All this makes it difficult to achieve healthy development of equity crowdfunding financing in China.

(4) The financing limitations of equity crowdfunding campaigns

As for the equity crowdfunding financing limit, it is not stipulated in Opinion Draft, but in the JOBS Act, a financing limit is set for equity crowdfunding companies. Under the JOBS Act, a company may not raise more than $1 million in equity crowdfunding within a 12-month period, which is consistent with the U.S. small public offering registration exemption (Ralcheva & Roosenboom, 2016). The drafting note of our "Private Equity Crowdfunding Financing Administration Law (for Trial Implementation) (Draft for Public Comments)" (2014) argues that the absence of an investment and financing limit for equity crowdfunding projects in China

fully reflects the risk-bearing approach. In addition, there are various views on whether equity crowdfunding should learn from the U.S. experience, i.e., whether and how much a financing limit should be set.

Yang and Liu (2015) believe that China's proposed equity crowdfunding management approach should set a financing limit. In this regard, some experts propose to set a financing limit of 2 million yuan while Yang and Liu (2015) believe that a limit of 3 million yuan is too low and should be set at least at 5 million. Most the current equity crowdfunding pilot companies, including Jingdong Crowdfunding, Alibaba and our observed object Colorful Invest, have raised more than RMB 3 million in many of their projects. Moreover, according to the relevant provisions of the Draft, the investment amount for investors to invest in a single project shall not be less than RMB 1 million. With a financing limit of RMB 2 million, only three investors can be financed, which is clearly contrary to the original intention and practice of equity crowdfunding.

Currently, the Chinese industry is still debating whether and how high a financing limit should be set for equity crowdfunding, and these debates can undoubtedly provide references for legislators to fix in the formal equity crowdfunding management approach. It is suggested that financing limits for equity crowdfunding should be categorized and managed in the following ways. First, no financing limit should be set for equity crowdfunding through private placement because private equity crowdfunding investors are qualified investors and have the corresponding risk-bearing capacity. Second, a certain financing limit should be set for public equity crowdfunding, which can play a role in risk avoidance and equity crowdfunding investor protection in the future.

(5) The platform is prohibited from providing transfer services of negotiable securities

Article 9 in Opinion Draft states that it prohibits the platform from providing equity or negotiable securities transfer services in other forms. However, there is no provision on the exit mechanism and no provision on which institution shall undertake the responsibility of transferring the crowdfunding shares. Due to the particularity of the share of equity crowdfunding, it is not applicable to the provisions of the Securities Act on the listing and trading of publicly issued shares at stock exchanges or the transfer of shares at other stock exchanges approved by the state council. It means that if the investors need to withdraw from crowdfunding enterprises in the future, there is no measure to withdraw; it is obviously bad news to the investors and dramatically increases the risk of equity crowdfunding. It is believed

that it is necessary to establish the investor exit mechanism. The regulatory authorities can authorize crowdfunding platforms to carry out the transfer of equity crowdfunding shares, which is not only necessary for the establishment of a multi-level capital market but also convenient for investors to exit and conducive to the prosperity of the equity crowdfunding market. To prevent the initial shareholders from harming the interests of general shareholders for their personal interests, the United States has already stipulated a lock-up period for the equity transfer of the initial shareholders of small, medium and micro-sized enterprises financed by equity crowdfunding, which can be an excellent example to follow.

(6) Requirement on the Issuance Behaviour of Equity Crowdfunding Financing

Given that there are still some conflicts between China's equity crowdfunding and the existing Company Law and Securities Law, the Draft for Public Comments restricts the issuance of equity crowdfunding in order not to conflict with the higher law. The first issue to be considered in setting the financing method is whether the equity crowdfunding financing can be publicly offered. Since equity crowdfunding financing in China is currently in conflict with the Securities Law in terms of public offerings, if the public offering of shares to unknown objects or to a specific public of more than 200 people constitute a public offering (public offering), an application for the offering must be submitted to the China Securities Regulatory Commission (CSRC) and approved by the CSRC before the offering can be made. Specific persons are generally understood to be acquaintances or friends with unique relationships, while unspecified persons generally refer to weaker relationships or strangers.

The issue of whether equity crowdfunding is a public offering is highly controversial and directly related to the issue of whether equity crowdfunding is an "illegal offering of securities". At the same time, there are two distinct views on whether equity crowdfunding is a public offering of securities in the theoretical and practical fields, as seen in the industry. One view is that China's equity crowdfunding is not a public offering because it can only be sold to real-name investors, and the offering is mainly made offline, such as through the circle of friends, flyers, QQ or WeChat, and so on, and therefore is not a public offering. According to the opposing view, the natural nature of the Internet allows even equity crowdfunding to raise funds only from real-name investors or through social media, and thus these means, or methods only circumvent the provisions of China's Securities Law. Therefore, they do not substantially constitute a denial of public offerings and in a sense, are considered a public offering (Guo, 2015; Yang & Liu, 2015).

In March 2014, the Supreme People's Court issued a judicial interpretation that further clarifies and defines the boundaries and scope of the disclosure. According to the judicial interpretation of the Supreme Court, specific persons are further limited to the first level of a strong relationship with the fundraiser and cannot be extended to the second level (relationship of relatives, friends of friends as the first level). In addition, specific organizations and circles established for the purpose of raising funds are also considered public collections (First Financial Daily, 2015). The judiciary in China is still tight, cautious and strict (Guo, 2015) in its approach to the boundaries and scale of public fundraising. Because of this, there is an urgent need for a Chinese version of the JOBS Act and a small exemption for public offerings of equity crowdfunding when the Securities Law is amended. At the same time, when amending the Securities Law, there should be a clear regulation on public offerings and private placements, and small public offerings should be exempted from approval and replaced by a registration and filing system.

Meanwhile, on the issue of the limit of the number of financiers, whether the limit of 200 people in the Company Law can be broken is also an issue that needs to be paid attention to. There has been a lot of debate in the theoretical and practical circles about whether the number of equity crowd funders can break the 200-person limit. In the US, before the enactment of the JOBS Act, private companies were required to register with the SEC if they had more than 500 shareholders and $10 million in assets. Under the reformed JOBS Act, there is no limit to the number of shareholders in a crowdfunding company; only a cap on investor investment and a funding limit is set for financiers, which is designed to protect investors. The rules of the Act were officially implemented on January 21, 2016. While both the Company Law and the Securities Law of China limit the number of shareholders of a company to 200, one view is that the scope of the number of equity crowdfunding funders in China should be expanded. Since the limit on the number of shareholders in a company under the Company Law and the Securities Law has hindered the development of equity crowdfunding, consideration could be given to relaxing the limit by amending the Company Law and the Securities Law to increase the number of shareholders from 200 to 500. The Central Bank's Equity Crowdfunding Recommendation Report also recommends breaking the 200-shareholder limit in the Company Law and the Securities Law.

Another view is that the limit on the number of shareholders should not be expanded in China's immature equity crowdfunding market. Moreover, the legislative amendments need to be made, including the corresponding amendments to the Company Law and the Securities Law.

This will result in higher legislative costs and take a longer time. The existing legal framework should be used to regulate equity crowdfunding. In my opinion, there is a need for a legislative breakthrough in the number of equity crowdfunding investors, which is not only the trend but also the essence of crowdfunding. Therefore, the corresponding law should be gradually amended to make it more conducive to the development of the equity crowdfunding industry, to promote small and medium-sized enterprise financing, and to enable more investors who have idle investment funds but cannot find a way to invest to benefit from the equity crowdfunding investment. This is something that will benefit all participants in equity crowdfunding.

2.7 The interactive relationship between social media and Crowdfunding

In the Information Era, people now require ubiquitous access to the outside world, the Internet and mobile devices make it come actual and Social Media steps into the role of the entrance. It is shown that, in 2018, there were 4.021 billion Internet users, and 3.196 billions of them were social media users; the number is still increasing significantly that every single day in 2018, around 1 million people started to use social media for the first time, which means that there are 11 new users added in every second (We are Social & Hootsuite., 2018). Different from the traditional fundraising tools, crowdfunding entrepreneurs usually acquire a small number of investments from a large number of investors instead of receiving a considerable amount of money from a few investors, such as Venture Capital and angel investment (Lu et al., 2014).

As mentioned before, crowdfunding is originated from 'crowdsourcing', but is different from crowdsourcing's based on approaches to family & friends. Rather, crowdfunding's unique characteristic in that it is internet-linked. After investing in crowdfunding, investors can get updates of the invested projects only when they visit the portal web with the connection of projectors on online social media, both investors and projectors can get 'real-time' tracking and insight deeply into their projects (Lu et al., 2014). Investors who have already been involved in crowdfunding campaigns are possibly willing to share the campaigns with their social networks through social media (Lu et al., 2014). Thus, the vast online population and extensive the use of social media also provides fertile soil for the growth of Crowdfunding.

2.7.1 Crowdfunding and social media – trust-based signals

In 2015, the Turkish scholar Koçer (2015) had a study on 3 Crowdfunding documentary films; while interviewing the creator of the film <My Child>. He notes the 'huge differences' in the initiatives of Crowdfunding made by social media as:

> "Say you funded my project, and you tweet its Indiegogo page. Your 2,000 followers see it immediately. Some of them retweet it even though they don't donate. The My Child campaign has become viral on Facebook and Twitter" (Koçer, 2015).

Since this is a very typical process that how Crowdfunding campaigns being spread through Social Media platforms, Koçer (2015) moves forward that the project not only went viral on its own but also carefully executed on social media as the projectors updated the production progress of the film and got connections with more than 5000 people on Facebook. Thus it makes a circle linking with Social Media and Crowdfunding platforms, and beyond attracting funds from the contacts on Social Media platforms, Crowdfunding is also an approach to reach the social and political ends by building up the supporting communities through Social Media (Koçer, 2015). Compared to the traditional information diffusing projects, crowdfunding campaigns have set goals and are always time-constrained (Lu et al., 2014). Since most of the platforms apply the "all-or-nothing" policy, it is urgent for the creators to get as many investors as they can to achieve their pre-specified goal in a limited time. Most of the crowdfunding platforms have already been aware of this as well, majority of the industry-leading platforms, such as Kickstarter, IndieGoGo, all have the "share" button under the descriptions of the crowdfunding campaigns for browsers to share the information with their preferred social media platforms, usually with options of Facebook, Twitter, Instagram. To crowdfunding platforms, social networks can be seen as a complementary resource, helping the platform operators get a more profound perception of the crowdfunding process (Lu et al., 2014).

In the new context of crowdfunding financing, combining the information asymmetry and social attributes of crowdfunding, entrepreneurs' use of social media as information flow channels and social network trust relationships as carriers for information sharing is an effective strategy to alleviate information asymmetry and improve the credibility of entrepreneurs' information. There are several reasons for the entrepreneurs to build their profile on social media platforms. First, according to the trust mechanism and information mechanism of social capital, compared with the information sharing of entrepreneurs on crowdfunding platforms, social media guarantee the information sharing behaviour of entrepreneurs by virtue of their trust mechanism, restrain the opportunistic tendency of entrepreneurs to share false information, improve the credibility of information, and break the dilemma of information authenticity in the current Internet context.

M. F. Lin, Prabhala, and Viswanathan (2013) and Yue et al. (2016) validate the role of social

network proprietary information for P2P Internet lending platforms, which is recognized in the market as an effective signal of "trust strength" and has a positive impact on improving financing success, reducing financing costs and default probability. In addition, from the perspective of information mechanism, social media as third-party platforms connected to crowdfunding platforms not only expand the communication space between entrepreneurs and investors, extending their tentacles to a broader range of potential investors(Ahlers et al., 2015; H. C. Zheng, Li, Wu, & Xu, 2014)), generating spill over effects of social capital within and outside the crowdfunding platform (Skirnevskiy et al., 2017), but also breaks the limitation of the relatively short opening time of the crowdfunding investment window (usually 30-60days) (Courtney, Dutta, & Li, 2017) and even facilitate investors to trace the information related to the crowdfunding project before it started through social media, weakening the information disadvantage and increasing the participation of investors.

2.7.1 Crowdfunding and social media – information sharing

The existing crowdfunding research has already aware of the challenge and conducted studies around the content, form, speed, and source of information sharing by entrepreneurs, and has come to a more consistent conclusion that by proactively sharing detailed information about their projects and themselves, entrepreneurs can reduce the level of uncertainty and increase investors' trust in them, thus alleviating the information asymmetry problem and help to improve financing performance. In terms of content of information shared, Ahlers et al. (2015) found that human resource information (number of board members, percentage of MBA directors), the amount of equity retained by the entrepreneur and risk information such as financial projections were interpreted as effective signals to improve the success rate of financing. A study by Z. Y. Liu, Peng, and Ma (2018)'s investigated the descriptive information on the introduction page of the crowdfunding website and found that the more information is shared, the more beneficial it is to enhance the trust level and increase the financing ratio.

Additional forms of information sharing, such as images and videos, are also considered to be important signals of the quality of the project and the level of care and preparation of the entrepreneurs, reducing the information asymmetry of the financing process (Courtney et al., 2017; Mollick & Nanda, 2016). In addition to the content and form of information sharing, the frequency and speed of information updates by entrepreneurs on crowdfunding platforms are also instrumental signals in promoting investor engagement and improving funding performance (Hornuf & Schwienbacher, 2018; Mollick, 2014). In addition, some other scholars concerned that information sharing is not a one-way flow, but an interactive process, different

sources of information refers to different signals of the crowdfunding projects. Courtney et al. (2017) argue that signals originating from entrepreneurs and third-party signals are distinguished. Specifically, the former refers to behavioral and characteristic signals reflecting the quality of the project and the credibility of the entrepreneur (the use of videos and the entrepreneurial experience of the entrepreneur), while the latter refers to the emotional performance of investor comments.

Both signals are effective in reducing the level of information asymmetry, but the positive effects of the signals from entrepreneurs offset each other, while the entrepreneur signals and the third-party signals are complementary to each other. A similar view was obtained in a study by Kromidha and Robson (2016), which concludes that interactive signals produce stronger financing performance enhancement than one-way signals. Thus, it is evident that in an online crowdfunding financing scenario with increased information asymmetry, the propensity and behavior to actively share information demonstrated by entrepreneurs who are at an information advantage is a critical element of successfully obtaining financing. However, despite this, it is still debatable whether the information sharing behaviour of entrepreneurs can really serve as an effective initiative to reduce information asymmetry and bring about an increase in the efficiency of the online crowdfunding market.

2.7.2 Crowdfunding platforms and social networks

An entrepreneurs' social network information sharing behaviour is also a strategy to build trust, which helps to increase potential investors' trust in entrepreneurs and thus improve financing performance. Some scholars believe that social exchange and interaction give rise to trust (Nguyen & Rose, 2009) and that information sharing is one of the most common situations of social interaction (Nguyen et al., 2005). Maxwell and Levesque (2014) also argue that entrepreneurs are more likely to receive angel investment when they exhibit trust-building behaviours characterized by good communication. On the other hand, they suggest information sharing influences the relationship between the climate and trust expectations to some extent. Information sharing behaviours such as sharing confidential information, providing truthful and current information, and explaining details and results of information (Maxwell & Levesque, 2014), are considered to contribute to trust-building. In the context of Internet crowdfunding, building trust through information sharing and interaction has also gradually gained research attention (Wang, Li, Liang, Ye, & Ge, 2018; H. C. Zheng et al., 2016).

Arguably, crowdfunding platforms not only have a function in entrepreneurial financing but

they also provide a new and valuable social function for entrepreneurs. Frydrych, Bock, Kinder, and Koeck (2014) argue that social dynamism is an essential characteristic of crowdfunding platforms. On the showcase page of crowdfunding projects, the platform provides the ability for entrepreneurs to disclose social account connections (Kromidha & Robson, 2016) and allows investors to follow their favourite entrepreneurs on the site and even become a member of the entrepreneurs' online social network (Skirnevskiy et al., 2017). It has also been found that this social attribute becomes a key factor influencing funding outcomes. Social capital (e.g., number of Facebook friends) and their social interactions (e.g., Facebook sharing and liking) reflected in entrepreneurs' social media during the crowdfunding process significantly increase the success rate of funding (Buttice et al., 2017; Kromidha & Robson, 2016; McKenny, Allison, Ketchen, Short, & Ireland, 2017; Mollick, 2014; Skirnevskiy et al., 2017).

Consequently, social network participation may play a mixture role in the crowdfunding context, except the crowdfunding platform itself, entrepreneurs' social media becomes another critical source for investors to access and get information about the projects, track investment campaigns, and also for start-ups to promote their projects with potential investors (Lu et al., 2014). Several crowdfunding researchers have recognized the significance of using social media in the crowdfunding process. In the handbook < The everything guide to crowdfunding >, Young (2012) defines social media as 'two-way' traffic for the founders to have 'an interactive dialogue' with the funders, potential investors and anyone who is interested in the projects. Young (2012) highlights the utilizing of social media as 'a necessity' but not 'an option since it can help to obtain new investors and retain the existing ones, also the most economical approach to participate in the competition in the industry.

2.7.3 Crowdfunding platforms and social media activity

In previous studies, some researchers recognize that the number and the size of projectors' social media activity can be a helpful signal in predicting the success of reward-based crowdfunding campaigns (Etter, Grossglauser, & Thiran, 2013; Mollick, 2014; H. C. Zheng et al., 2014). According to J. Block et al. (2018), presenting on social media plays a significantly positive role in the outcomes of crowdfunding, on both the number and the amount of investment. It is not an immediate effect, but it will be seen some time after posting the updates on social media. The results of crowdfunding campaigns are not related to the number of updates but the content of postings. J. Block et al. (2018) research point out that the updating of 'new development' of the projects usually receives positive reaction from the investors, such as updates of the campaign, development of the star-up, new resources of funding, or other

campaigns cooperated with the project. However, the results showing that investors are not that interested in the updates about the star-up's own details, such as the 'team, business model, product developments and promotional campaigns', do not have a significant impact on the results of the campaigns.

Meanwhile, some other researchers in the discipline do not agree, Borst et al. (2018) find that there is not a visible trend between the use of social media and the success of crowdfunding campaigns, while Belleflamme et al. (2014) suggest that there is no difference in the results between the campaigns posting on/ not on the social media platform. Even more, Wessel et al. (2016) illustrate that fake information of the crowdfunding campaigns posted on social media may cause a drop in fundraising after the short positive impact on the performance of reward-based crowdfunding.

2.7.4 Analysis of the impact of social media on crowdfunding

In early research of the relationship between Social Media and Crowdfunding performance, Saxton and Wang (2014) identified the inherent advantage of Social Media platform effects on the type of charitable organizations' donation-based crowdfunding. Since the purely donation-based crowdfunding campaigns (no rewards return) created by the non-profit organizations do not have so-called "close social networks" (friends and relatives) as individuals, social media becomes the crucial tool to get funds from the general public. Saxton and Wang (2014) explore the determinants of social media-driven charitable crowdfunding using data from Facebook Causes pages and Internal Revenue Service for 100 US-based non-profit organizations. The results indicate that online donors are not as sensitive as offline donors who focus on the efficiency of the organization.

Beyond that social network effect, the Web-capacity of the non-profit organizations is a determinant of success of social media driven donation-based crowdfunding, rather than the financial capacity of the organizations. It is also suggested that the online social capital becomes the main resource of charitable crowdfunding campaigns, and the online donors are more willing to donate in the health-related campaigns (Saxton & Wang, 2014). However, as very early research at the Social Media crowdfunding's emerging stage, Saxton and Wang (2014) study identifies the determinants of social media-driven charitable crowdfunding and the characteristics of the online donors. However, the study does not link the phenomenon to the crowdfunding platforms, and it is only later studies by crowdfunding researchers that start to pay attention to donation-based crowdfunding platforms.

Paulus and Roberts (2018), for example, turn their attention to the relationship between social media platforms and donation-based crowdfunding, especially medical-related campaigns by analysing 105 medical campaigns on GoFundMe (GFM). Their work disproves the myth of the promise by crowdfunding platforms that they offer a community for the fund seekers to get more funds. On the contrary, since GFM encourages fund seekers to link their campaigns to Facebook, Paulus and Roberts (2018) reveal that the determinant factor in the donation-based crowdfunding campaign's performance is not community served by personal fundraising sites, but the fund seekers existing online social networks. The most successful projects are continuously funded by a broad existing network, and the wealthier the network the better (Paulus & Roberts, 2018). However, Paulas and Roberts also express their special considerations to the ethical problem of encouraging self-presentation of these personal medical donation fund-seekers as exposure may cause adverse reactions from the potential backers and result in a negative impact on the crowdfunding performance. This point of view is still novel and need to be further examined in the future (Paulus & Roberts, 2018).

Nevertheless, Paulus and Roberts (2018) are not the first ones to assess social media's effect on donation-based crowdfunding projects. Earlier, Berliner and Kenworthy (2017) discussed the bond between social Media platforms and donation-based crowdfunding noting a visible increase in healthcare appeals after the 2008 financial crisis in the US. By recognizing the positive influence that social media can have on crowdfunding campaigns, Berliner and Kenworthy (2017) applied a mixed-methods study of 200 randomly selected GoFundMe (GFM) campaigns, exploring the relationship between their shares on Facebook and the donation amounts of the campaigns. The results of their study indicate that though the platform highlights the positive effect of sharing the campaign's information on Facebook (350% of the unshared campaigns), the result show that projectors' ability to utilize such approaches varied widely, while the mean number of shares for the projects is nearly seven times of the mean number of donations. They suggest that spread in use of social media does not impact directly on donations (Berliner & Kenworthy, 2017).

Similar to previous studies on linguistic technique in crowdfunding campaigns (Parhankangas & Renko, 2017), an analysis of qualitative data of some 200 samples by Berliner and Kenworthy identified the importance of narratives in the campaigns. This study suggested that the promotion of self-marketing by projectors on social media 'requires media literacies across multiple domains in order to establish credibility, attract donors and evoke a sense of deservingness' (Berliner & Kenworthy, 2017).

As noted earlier, Mollick (2014) analysed 48,500 crowdfunding projects from Kickstarter and found that linking to Facebook plays a positive role in the results of campaigns. However, there is a different point of view on social media applications in terms of the type of civic crowdfunding (Stiver, Barroca, Minocha, Richards, & Roberts, 2015). By observing the statistics from four civic crowdfunding specific platforms, Citizinvestor, Copy, Neigbor.ly and Spacehive, and their connections with Facebook and Twitter, Stiver et al. (2015) demonstrate that there is a less active impact on civic crowdfunding than the existing Reward-based campaigns. The reason is that civic crowdfunding has its special community and used to have off-line events to communicate with funders. As well, civic crowd funder's are generally not accustomed to using social media (Stiver et al., 2015).

How to make the most use of social media to promote the campaign is another question worth thinking about. Bushong, Cleveland and Cox (2018) treat social media as one of the key factors that decide the destiny of the crowdfunding campaign. However, they argue that it is important to choose the appropriate timing and target the right audience when using social media during the Crowdfunding process. Otherwise, it does not work as other scholars (Ennico, 2016) stated. Bushong, Cleveland and Cox (2018) illustrate this by comparing two crowdfunding cases set up almost the same time in Bowling Green University, one was for the library, and the other was for a themed event the library project got a great success and was active on Social Media, while the event project was lost and the authors find the project was information-delayed and did not keep good communication with their sponsors on Social Media (Bushong et al., 2018).

As mentioned before, the most recent crowdfunding research in China on interactions with social media focus more on donation-based and reward-based crowdfunding, particularly in the medical crowdfunding type. Qualitative research by Huang et al. (2021) based on 52 respondents, drawing on grounded theory, studied donation behaviour in relation to medical crowdfunding on social media. The study identified seven factors that impacted the donors' behaviour on social media: interpersonal relationships, reciprocity of helping, attitude toward donation, perceived behaviour control, perceived trust, project information and characteristics of patients.

2.7.5 Empirical evidence of Social Media's impacts on Crowdfunding

In terms of reward-based crowdfunding research based on the Elaboration Likelihood Model (ELM), H. C. Zheng et al. (2016) identified a different point of view. They point out that earlier social media-related crowdfunding research concentrated on the projectors' popularity on third-party social media. They argued that from the technical perspective, adopting the ELM

and using partial-least-square is the more appropriate research approach to analyse the determinants of reward-based crowdfunding. The results showed that the entrepreneur-sponsor interactions have a more significant effect on the projects than entrepreneur's creditworthiness. Moreover, they argue that the influence by social media on the entrepreneur-sponsor interactions were usually over-praised in previous studies (H. C. Zheng et al., 2016).

Despite attracting more distance investment, social media also plays a significantly important role in helping the crowd funder's in predicting the achievements of their projects. Lu et al. did a systematic study in 2014 investigating how crowdfunding fundraising activities and promotional activities on social media platforms have developed since their emergence and how these Social Media activities impact the results of the crowdfunding projects. They argue that social media is the 'key' to the success of crowdfunding campaigns and illustrated the point by data mining. This study gathered all the projects from Nov. 2012 to Apr. 2013 active on the Kickstarter website and obtained the projects' related posting on Twitter, then used the Information Networks system and Economics software to monitor the URL of the projects mentioned on Twitter. The aim was to test the relationship between the tweets posting of projects and their performances on Kickstarter.

Lu's et al. (2014) experiment shows that the distribution of social media users generally follows the power law and the activeness and richness of campaigns' promotion on social media show a great correlation (0.79) with fundraising activities. Lu et al. (2014) then suggests that Crowdfunder's can follow this principle to predict the number of investors and whether their projects can reach their fundraising goal at the very beginning of the projects. Lu's et al. (2014) work draws special attention on the effects of using social media-based promotion in Crowdfunding projects and provides several useful principles for Crowdfunder's to predict the performance of their projects through Social Media diffusion. However, this study only focuses on one social media platform (Twitter), Thus, it is hard to say if the result can be applied to other platforms that the campaign creators are using, much more than this, Lu's et al. (2014) study of Twitter in crowdfunding campaigns includes the post of non-objectors. Thus, it leaves a gap that makes it hard for creators to follow the results to control their projects on social media.

To fill the gap of Lu et al. (2014) study, Borst's et al. (2018) research only focused on the social media message posted by the project creators and investigated the relationship between the number of posts by projectors and the performance of crowdfunding campaigns. They argue

that in crowdfunding campaigns, mobilizing funders to attract investments from more distant/potential resources beyond the existing networks by seeing the connection between social media and the crowdfunding platforms. Following on an early study by (Haythornthwaite, 2005) on the tie strengths of crowdfunding backers, Borst et al. (2018) divided the investors into three categories regarding their relations to the projectors: powerfully tied – close network communication with projectors through multiple approaches; weak tie – social contacts that share with projectors through group-wide media; and latent tie – people who do not know the project yet. Then, based on Mollick's research result in 2014, Borst et al. (2018) put forward the hypothesis that the number of messages posted on social media by the campaign's creator has a positive influence on the performance of crowdfunding campaigns. Also, Borst et al. (2018) tested how the number of messages moderates the effect of "tie strength" on the campaign's performance, the results partly confirm the moderating effects of social media messages on the project's performance, with "weak ties" and "latent ties", social media messages are positively moderating the project performance when projectors post more messages on social media.

However, during the process of testing based on data from Voordekunst, the largest reward-based crowdfunding website in the Netherlands, and using ten face-to-face interviews of the projectors, Borst et al. (2018) found that the lagged tweets led to a significantly better performance of the crowdfunding campaigns, while lagged messages from Facebook do not show such a good effect on the campaign's performance. This arrives at a different idea to previous research (Belleflamme et al., 2014; Lu et al., 2014; Mollick, 2014). Beyond that, Borst et al. also demonstrate that lagged Facebook messages even play a negative role on the communication with the "strong tie" backers, but positively on "weak and latent ties" backers, while Twitter messages contribute no significant contribution on "strong tie" backers but showing negative impact on "weak and latent ties" backers.

Writing on social media's effect on the performance of crowdfunding projects, Borst et al.（2018）break up the previous stereotype image of social media's impact on crowdfunding performance by refining the factors that vary the influence of social media on the crowdfunding campaigns and started to being aware of the moderating effect of social media messages on crowdfunding performance. They enlighten crowdfunding research by providing a new research direction in the crowdfunding area that contributes to the current theoretical mechanism of crowdfunding research. However, while Borst et al. (2018) identify that the

positive effect of social media on crowdfunding campaigns varies regarding the type of social media platforms and the different categories of backers (strong, weak, latent ties), they are still no general principles identified that can apply to all crowdfunding projectors while using social media to promote the campaigns.

Moser and Ferguson (2018) undertook a very comprehensive study to test the connection between social media and crowdfunding platforms activities. It is suggested that now the crowdfunding industry is heavily depending on social media to spread its information (Lawton& Marom, 2010; Steinberg, 2012). The popular fan-based social media platforms, such as Facebook, Twitter, Instagram and LinkedIn, are often selected by both the crowdfunding campaign founders and their funders. In Li, Chen, Kotha and Fisher's study in 2017, they illustrate the hypotheses that are showing off the entrepreneurial passion by involving an introduction video of the project attracts more funding and can propose the backers share the projects' information on their linked social media platforms, thus acquires more financing from the backer's social contacts (J. Li et al., 2017). Li et al. (2017) tests the relationship between crowdfunding performance and social media platforms by observing 499 United-based crowdfunding projects on Kickstarter and their social media exposure on Facebook. The results present that displayed entrepreneurial passion from projectors is positive effect social media exposure by backers, then Li et al. (2017) did another study that examined this type of 'passion contagion progress' that reflects positively on the performance of crowdfunding projects and the projectors.

It seems like both the crowdfunding projectors and scholars have reached a consensus that using social media is one of the factors that can lead to a successful crowdfunding campaign. Kang, Jiang, and Tan (2017) investigated the relationship of geographical distance and social capital in crowdfunding campaigns. They highlight the use of Social Media as a vital factor in the promotion of crowdfunding projects, since social media is not only a broadcasting tool for the projector to update the process of projects but also a valuable technique to spread information by "penetrating the multilevel social ties" (Kang et al., 2017). To illustrate the importance of using social media during the process of crowdfunding, Kang et al. (2017) examine the data collection of 442 projects from the Chinese reward-based crowdfunding platform Demohour.com focused on innovative products. They observed the campaigns posted on Weibo, the most popular Social Media platform in China.

The results showing that 87.93% of the users in Demohour.com linked their Weibo accounts as a social media identity and project creators without linking their projects to Weibo perceive an obvious drop of either the spreading of their projects and the amounts of the fundraising (Kang et al., 2017). They argue that the use of social media overcomes the spatial limitation for information spreading by helping the backers get information of the crowdfunding projects, reducing the perceived uncertainty and building up interpersonal relationships. Thus, the online social network is one of the significant important components of the crowd funder's' social capital resource that finally contributes to the performance of the crowdfunding campaigns. In terms of the crowdfunding entrepreneurs, Sahaym et al. (2021) confirm the prediction effect on crowdfunding campaign success, with the entrepreneurial orientation fosters action and routines, and the effect is mediated by the perceived contribution of social media when the crowdfunding firms are pre-existing SMEs.

In a recent study in China, C. Jiang et al. (2021) argue that the input intensity of social media impacts significantly reward-based crowdfunding performance. Testing the power by three dimensions: credibility, activity and spread, the researchers analyse 1206 campaigns from the Chinese reward-based crowdfunding platform Modian.com and observe the projects' activity on Weibo; the empirical findings also suggest that disclosing social media accounts contributes significantly to the campaigns' performance and all these three dimensions positively impact on the reward-crowdfunding results.

So far, it looks like the fundamental assumption from the crowdfunding researchers is that social media plays positive influences on the performance of crowdfunding campaigns. However, Wessel et al. (2016) find that there emerges fake social information on Social Media platforms since the increasing use of social media in reward-based crowdfunding. Wessel et al. (2016) observed more than 35000 projects from Kickstarter and found that 1.6% of these campaigns have fake Facebook Likes, then they analyse the fluctuated performance of the projects after the impressive peaks in the campaigns' "Likes" on Facebook. The results showed that there is a slight and short-term positive influence on performance of the campaign after the "fake peak". However, this effect quickly drops to lower level and lasts for a longer time than the actual social information ranked campaigns.

Thus, the overall impact of fake social information on reward-based crowdfunding campaigns is negative (Wessel et al., 2016). Wessel et al. (2016) study is based on the Signalling theory, which has been picked several times when we review the articles from the Short et al. (2014)

journal list, that they treat the social information of the projects (such as rankings, reviews and Facebook "likes") as signals that will impact on the proposed backer's decision-making behaviour, and this is the ONLY journal article noted in this review that demonstrates the negative impact from social media on crowdfunding projects.

So far, we can see the role of social media activity has been illustrated either positively impacted on the project performance by the point of view of most related prior empirical studies (K. B. Anderson & Saxton, 2016; Beier & Waner, 2015; Huang et al., 2021; C. Jiang et al., 2021), or negatively impacted on the campaign result recognized by very few studies in some extreme case such as social media activity with fake information (Wessel et al., 2016). These either-or propositions propose social media's role been more like a moderator in the crowdfunding industry, it has been assumed to effect on the campaigns results through the social media message type (J. Li et al., 2017),updating frequency (J. Block et al., 2018), or different social media platforms (Lu et al., 2014), et al. Although there is already some researchers (Borst et al., 2018) started to aware the moderating role of social media on crowdfunding, there is very few studies have done a monographic research regarding to how social media moderates the crowdfunding projects performance, to what extent and in which way.

2.7.6 Summary of research on the social media's impact on crowdfunding projects

Table 3: Summary of research on social media's impact on crowdfunding

Author name	Social media indicator	Influence on the performance of Crowdfunding	The relationship between social media and Crowdfunding
Saxton, G. D., & Wang, L. (2014)	Facebook	Positive	In the social media-driven charitable organizational fundraising, the online donors do not as sensitive as off-line donors on the efficiency of the charitable organizations, and the determinant of the success of the fundraising is the Web capacity of the organizations.
Koçer, S. (2015)	Facebook/Twitter	Positive	Crowdfunding is not only a fundraising tool but also an approach to accomplish social and political ends by soliciting the support communities and attracting attention from the media to build up the reputation of independence.

Stiver, A., Barroca, L., Minocha, S., Richards, M., & Roberts, D. (2015)	Facebook/ Twitter	Less active	Social media's positive influence on Civic Crowdfunding is not as significant as Reward-based Crowdfunding since Civic Crowdfunding has its unique ion communication approach between projectors and backers.
Kang, L., Jiang, Q., & Tan, C. H. (2016)	Weibo	Positive	Online social contacts of the Crowdfunding advocates are the most important social capital source of the fundraising program; the vital spreading of the projects' information through social media brings numerous benefits to the Crowdfunding creators.
Wessel, M., Thies, F., & Benlian, A. (2016)	Facebook	Negative	Fake social information of the Reward-based Crowdfunding can only enable a very slight and short positive influence on the performance of the campaigns, but long-term negative impacts after the peak of fake information occurred.
Zheng, H., Hung, J., Qi, Z., & Xu, B. (2016)	N/A	Overpraise	Due to the special characteristics of Reward-based Crowdfunding , the entrepreneur-sponsor interaction effects much higher on the campaign's performance than the entrepreneur's creditworthiness, and social media data are usually highly skewed in the previous studies.
Berliner, L. S., Kenworthy, N. J. (2017)	Facebook	Variable	In term of Donation-based Crowdfunding campaigns, it indicates that the spreading through social media does not result directly in donations, and the Crowdfunder’s' literacy of social media may be a considerable barrier for the projectors.
Li, J., Chen, X. P., Kotha, S., & Fisher, G. (2017)	Facebook	Positive	Projectors' displayed passion by involving an introductory video for their projects attracts more funders and promotes them to share the projects on social media, thus attracting more funding from the previous backer's social contact.
Borst, I., Moser, C., & Ferguson, J. (2018)	Facebook/ Twitter	Depends on	To what extent of social media will influence the performance of Crowdfunding campaigns? It depends on what social media is and what type of messages projectors send to the "latent tie" backers.

Bushong, S., Cleveland, S., & Cox, C. (2018)	Not specified	Positive	Social media is an undisputed factor that positively influences Crowdfunding performance but needs the right strategies to take advantage of using it.
Paulus, T. M., & Roberts, K. R. (2018)	Facebook	Positive	The key resource of a successful Crowdfunding project is the funds from the projector's existing online social network but not the community provided by the Crowdfunding platform.

2.8 Social media's impact on equity crowdfunding in a signalling perspective

Crowdfunding platforms usually provide sharing links to social media to help creators to get more funds from more distant and potential investors (Beier & Wanger, 2015). Earlier literature (Beier & Waner, 2015; Lu et al., 2014) shows that crowdfunding scholars had already identified the trend of having cross-discipline research in social media and Crowdfunding in the current information era and realized that researchers should put more attentions on the investor's group. However, few studies have done so.

As mentioned above, we reviewed all the 11 social media-related articles in crowdfunding research from SSCI (by the end of Nov. 2018) and surprisingly discovered that none of them were looking into equity-based crowdfunding. Moreover, since investing in crowdfunding is a decision-making behaviour, we have been noticed that researchers try to unscramble the investors' behaviour through use of Signalling Theory (Ahlers et al., 2015; Scheaf et al., 2018; D. Zhang, Li, J., & Long, 2018; D. Zhang, Li, Wu, & Long, 2018). However, few of them have counted social media's impact in the research.

Since crowdfunding is a stunning new presence that has emerged in less than one decade, many studies in this discipline in this study linked with social media focus on the donation-based and reward-based types. With the grow-up of equity crowdfunding as a new venturing fundraising tool in the capital market, scholars have put special attentions on the drivers of successful equity crowdfunding campaigns; the impact of social media in the process of equity crowdfunding has also been treated as one of the factors by some researchers (Lukkarinen, Teich, Wallenius, & Wallenius, 2016; Mollick, 2014; Scheaf et al., 2018).

Researchers have done elaborate research focused on the success drivers of crowdfunding. The results indicate that information disclosure by the entrepreneurs is a critical determinant of the success of the crowdfunding campaign (J. Block et al., 2018). As mentioned before, such

signals as due diligence of the entrepreneur, early investment from funders, due diligence, equity retention and venture quality of the company have been recognized a positive impact on the success of the crowdfunding campaigns (Ahlers et al., 2015; Cumming & Groh, 2018; Polzin, Toxopeus, & Stam, 2018; Vismara, 2016). However, this type of information is usually provided by the entrepreneurs at the beginning of the crowdfunding campaigns and stays the same during the process of the crowdfunding campaigns. While involved in social media, the information provided by creators is heterogeneous, and the result is full of uncertainty. Looking into the impact of social media seems to be a more intuitional perspective to test the signalling phenomenon in the crowdfunding market, especially the invest-return type of crowdfunding (J. Block et al., 2018).

Specific to equity crowdfunding, Lukkarinen et al. (2016) focused on the success drivers of crowdfunding campaigns by comparing two similar fields (Venture Capital and Angel Investing) using network theory. Lukkarinen et al. investigate the factors that drive the number of investors and amount of funding and illustrate that social media network has a positive impact on the success of crowdfunding campaigns, especially in the B2C (Business to customer) campaigns (Lukkarinen et al., 2016). By choosing Facebook as the observation social media platform, Lukkarinen et al. tested the data collected from Invesdor – a European based equity-based crowdfunding platform. The results indicate that in projects using social media networks get superior funding success, with 58% of the projects funded successful, while only 11% of non-using or no-social media account projects were successful. However, in Lukkarinen's et al. (2016) sample, only 40% of the entrepreneurs have their projects posted on their Facebook pages, whereas 87% of entrepreneurs did have a Facebook account. It is evident that over half of the companies choose not to post their equity crowdfunding campaigns on a social media platform. Lukkarinen et al. (2016) explain that entrepreneurs may choose not to post the projects on social media platforms to avoid "potential reputation damage" or deliver a "start-up image" to investors, whereas the real reason needs to be explored deeply in the future research. With the unclear reasons behind these decisions, whether social media is a real useful tool becomes a question that needs to be thought about. Also, what kind of use of social media can send effective 'signals' for entrepreneurs to attract more funds is worthy of further consideration.

Scheaf et al. (2018) point out that there are two main types of gaps in the current signalling-perspective study of crowdfunding: first, the extent to which signals are effective across different types of share holders and exchange contexts, and second, the interaction of signals

with other aspects of communication in the entrepreneur' pitches". In their study, Scheaf et al. (2018) test the efficiency of several costly signals, including media coverage, via an archival sample of 323 projects collected from the Kickstarter, which is a reward-based crowdfunding platform. The results showing the signal of media coverage is practical to the success of crowdfunding campaigns. Scheaf et al. (2018) try to prove that media coverage maintains its effectiveness in equity-based crowdfunding context via introducing the 'signal flexibility' concept. However, there is no empirical study that has been done yet, and an exploration of the effectiveness of media coverage signal in equity crowdfunding remains unclear.

From the above reviews, we can see previous studies are mostly keen on the prediction of the campaigns' results with proper social network activities, few of them realize the responsibility of government and platforms by guiding projectors with proper use of social media (Lu et al., 2014), especially under current China's ambitious legal environment of equity crowdfunding. Based on inferring, instead, our research focuses on the dynamic change that is impact by social media during the equity crowdfunding process and aims to reach a comprehensive overview for both current crowdfunding platforms, policymakers, projectors and investors to refer with.

2.9 Summary

This chapter presents an outline of the previous literature study on the nature and define crowdfunding and proposes the establishment and application of Signalling theory. It also reviews the equity crowdfunding's emergence and the legislation stage world wild. Social media's theoretical analysis and empirical study on crowdfunding have also been examined. The next chapter sets up the conceptual framework based on the above-obtained information.

CHAPTER 3: CONCEPTUAL FRAMEWORK

3.1 Introduction

This chapter sets up the conceptual framework and research questions of the study. Section 3.2 lists up the identified signals to indicate the venture quality based on Baum and Silverman (2004) structure; Section 3.3 interprets the study's conceptual framework both literally and graphically; Section 3.4 outlines the research questions and hypotheses of the research.

3.2 Signals to indicate the venture quality

To understand a new emergence, it is necessary to understand the role each component plays during the process. As mentioned before, similarly to reward-based crowdfunding, there are three main components in an equity crowdfunding campaign: entrepreneurs, investors and platforms (D. Zhang, Li, Wu, et al., 2018). The process of equity crowdfunding can be divided into three stages: submitting stage – entrepreneurs to platforms, investigating stage – platforms to entrepreneurs and funding stage – investors and entrepreneurs (D. Zhang, Li, Wu, et al., 2018). To clarify the purpose of the research, in this study, we will focus on the relationship between entrepreneurs and investors at the funding stage.

Based on Baum and Silverman (2004) structure, investors will be most likely to invest with the attributes of venture quality. In an equity crowdfunding context, it is usually indicated by the offering documents provided by the entrepreneurs with the projects on the equity crowdfunding platform. As discussed again in Section 5.2.3, the effective signals should be the signals that are observable and costly (Connelly et al., 2011). Thus, not all the information provided by the entrepreneurs is useful to investors. It is only information that explains the start-up's attributes and that can be understood by investors is impactful. According to Baum and Silverman (2004), we treat Human Capital, Social Capital and Intellectual Capital as the effective signals to indicate the venture quality.

3.2.1 Human capital

As evident in some previous studies, researchers have been aware that human capital plays a relevantly positive status in the venture success and demonstrate this from various aspects. Core human capital usually indicates skills and higher capabilities in identifying and exploring business opportunities (Shane & Venkataraman, 2000), designing and implicating venture strategies (Baum et al., 2001), and obtaining additional resources (Brush et al., 2001). It is also indicated that the experienced investors (venture capitalists, angel investors) prefer ventures with a human capital signal (Robb & Robinson, 2014). Besides, entrepreneurs' education levels

are being taken to an essential element for the inexperienced investors who invest in the 'high technology' industries (Levie & Gimmon, 2008). Hence, we take human capital as an effective signal to the investors in the equity crowdfunding context.

3.2.2 Social capital

Social capital may also be a valuable signal of venture quality (T. E. Stuart et al., 1999). Precisely, entrepreneurs' social networks can help firms to acquire useful industry information, also get an approach to potential industry associates, such as suppliers, clients and financial resources (Bruderl & Preisendorfer, 1998). Since social capital constantly brings information flows, potential markets and additional support (Hoang & Antoncic, 2003), it is not only acting on the process of fundraising but also bringing subsequent success to the firms (Bruderl & Preisendorfer, 1998). Here, we examine social capital as the second signal for equity crowdfunding investors.

3.2.3 Intellectual capital

According to Spence (1973)'s criteria of the effective signal, the signals should be not only observable but also costly, which makes the venture's attributes challenging to replicate by other competitors. Specifically to start-ups, previous studies(Baum & Silverman, 2004) have recognized that innovation or in other words- patent, meets the appeal of being talent showing up, especially in the 'high-tech' industries, holding patents or having patents in applying Signalling the innovative capability and technological skills (Baum & Silverman, 2004; Silverman & Baum, 2002). To a certain degree, patents guarantee the ability to compete with the 'future market' entrants. Meanwhile, the technical information also delivers positive signals to the potential investors in a niche, which could be hard to reach by other industry peers (Cohen & Lemey, 2001). Thus, we take intellectual capital as the last signal indicates good venture quality.

As mentioned before, crowdfunding has its unique characteristics in internet-linked and social media related as an online fundraising tool, although the effectiveness of social media remains debatable. Here, we treat social media as a moderator of these signals that impact the performance of equity crowdfunding campaigns; based on the study of Ahlers et al. (2015), we examine its moderating effect using 4 measurements to suggest the performance of equity crowdfunding campaigns, which are: 1. Completion of Projects (Ahlers et al., 2015), 2. Total Investment Amount (Ahlers et al., 2015), 3. Speed of Completion(Ahlers et al., 2015), 4. Annual Yield Rate of Projects (Cumming & Zhang, 2016). As an consequence, an equity

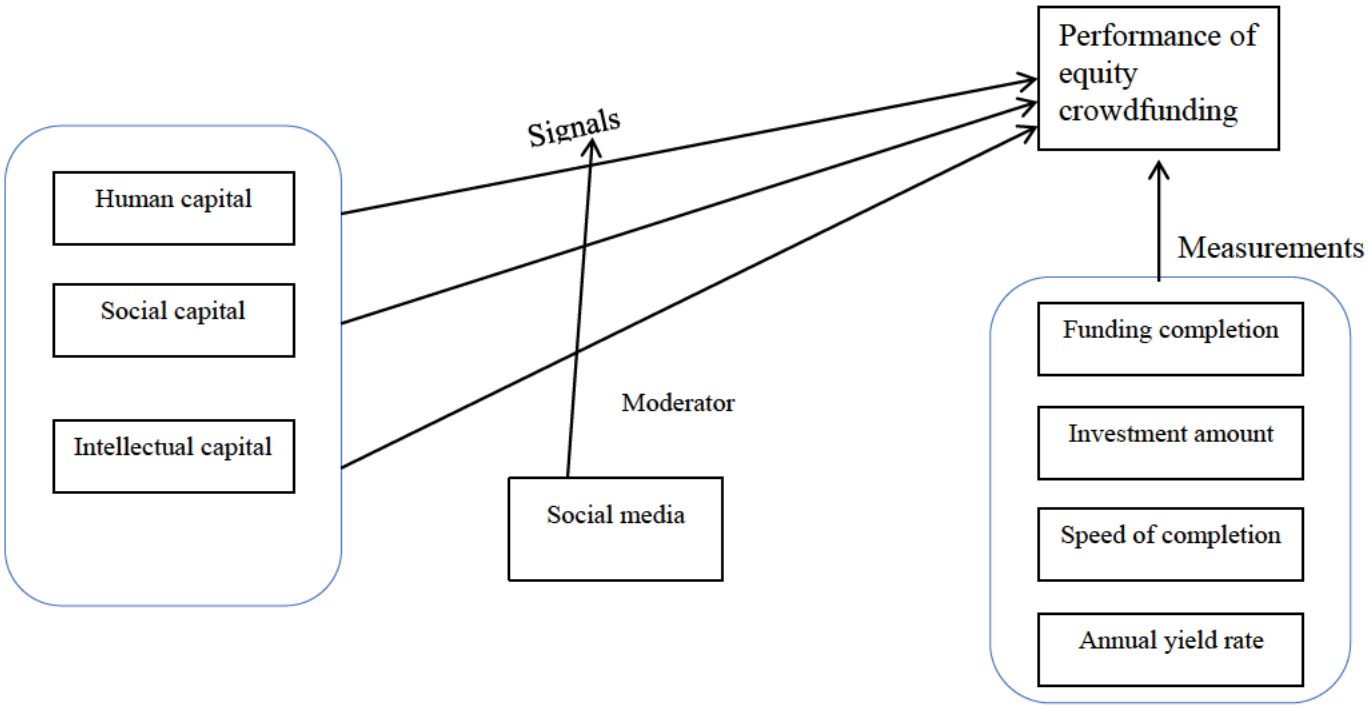
crowdfunding project with better performance is the project with closer completion of project target, higher investment amount, quicker completion speed and higher annual yield rate.

3.3 Conceptual framework

As mentioned in the literature review, from a signalling theory perspective, social media seems to become an ideal pathway for fund seekers to deliver their observable and costly signals to the potential investors. However, its actual effect remains in question. To test the moderating effects of social media on the performance of equity crowdfunding campaigns, knowing the elements that influent is necessary. Depending on Ahlers et al. (2015) structure, we assume Human Capital, Social Capital and Intellectual Capital (Baum & Silverman, 2004) as the signals that will influence the investors' decisions of equity crowdfunding campaigns, while social media moderates the impact of those three factors on the campaigns' performance. Besides, social media also has a subsequent impact on the performance of entrepreneurs after the funding completion (annual yield rate).

Thus, the conceptual framework for this study can be structured as in Figure 1 below.

Figure 1: Conceptual framework ((Ahlers et al., 2015; Baum & Silverman, 2004)



3.4 Research question and hypotheses

According to the previous literature, using social media to attract potential investors may result in complicated impacts on the performance of equity crowdfunding. Thus, my research is going

to fill this gap through an empirical test to explore the influences that Social Media platforms impact on the investors' decisions and how can these key elements impact crowdfunding campaigns' performance. Hence the research question is:

Does social media have, if any, impacts on the investors' decisions and the performance of crowdfunding projects?

To answers the research question, we assume two hypotheses:

Hypothesis 1 (H1) - The project with higher venture quality will achieve better performance on the equity crowdfunding result, which include:

H1(a): The venture quality characterized by social capital will positively impact the equity crowdfunding success

H1 (b): The venture quality characterized by human capital will positively impact the equity crowdfunding success

H1(c): The venture quality characterized by intellectual capital will positively impact the equity crowdfunding success

Hypothesis 2 (H2) - The activity on social media has a moderating effect on the performance of equity crowdfunding, which include:

H2(a): The activity by equity crowdfunding platform and/or projector on social media positively impacts the success of equity crowdfunding .

H2(b): The activity by equity crowdfunding platform and/or projector on social media moderates the positive impact of social capital, human capital, and intellectual capital on the success of equity crowdfunding.

To test the hypotheses, quantitative methods will be implemented. Depend on the We conduct an exploratory empirical study and the test of triangulation data to identify the nature of equity crowdfunding in China's financial market context, compare it with the current phenomenon of the Australian equity crowdfunding market, and find out the valuable theoretical experience for the future legislation and regulation of equity crowdfunding in China. We believe this method is appropriate for this "evolving topic" in this "evolving field", and the initial data can be "a useful base for future theory-building" (Mollick, 2014), from the experience of previous researchers in the discipline (Ahlers et al., 2015; Busenitz et al., 2005; Kaur & Gera, 2017; Lu et al., 2014; Mollick, 2014).

3.5 Summary

This chapter outlines the conceptual framework of the study based on the literature reviews and clarifies the research questions and hypothesis to answer the literature gap summarized in Chapter 2. The research design and methodology of the study will be described in the next chapter.

CHAPTER 4: RESEARCH DESIGN AND METHODOLOGY

4.1 Introduction

This chapter describes the methodology of the study to answer the research questions and the research design to test the hypotheses. It contains three sections: Section 4.2 proposes the basic information of the research type, setting, unit of analysis and the time horizon of the study；Section4.3 presents the data collection sample and its criteria for data selection; Section 4.4 states the analytical methods of the data and the overview of the data analysis result.

4.2 Research design

The research takes the design model established by Ahlers et al. (2015) based on the theoretical basis of (Baum et al., 2001).

4.2.1 Type of Study

This study is empirical research investigating in the impact of social media on the performance of equity crowdfunding in China. The goal of the research is to examine how the various factors concluded by the previous empirical research impact online equity crowdfunding using a Signalling perspective in a social media context.

4.2.2 Study Setting

This study takes a quantitative methodology to observe the data collected from the analysis unit; this is also the common method selected by most equity crowdfunding researchers to analyse primary data.

4.2.3 Unit of Analysis

The study's unit of analysis is the projects posted on the Chinese equity crowdfunding platform and their corresponding activities on the social media platform. The data collection process and structure are described as follows.

4.3 Data collection procedure

4.3.1 Data sample selection

As the purpose of the research is to explore the dynamics of equity crowdfunding in the Chinese market, we collect the initial data from the 'Colourful Invest' (Duocaitou) platform (www.duocaitou.com), which is one of the largest Chinese-based crowdfunding platforms, running equity crowdfunding projects mainly located in China and a variety of other Asian countries (such as Japan, Cambodia, Thailand), as well as countries such as the USA and Morocco. Since established in 2015, 'Colourful Invest' has become one of the leading equity

crowdfunding platforms in the Chinese crowdfunding industry 1,116 projects have received financial support through the platform (by the end of Oct. 2020), including return-based and consumption-typed crowdfunding, the total investment amount of the platform is now over 6.36 billion RMB (Duocaitou, 2020). In terms of equity-based type, by the end of Oct. 2020, 988 equity crowdfunding campaigns launched on the platform, 906 projects had reached their funding target (Duocaitou, 2020).

Since crowdfunding is a new-emerging industry in the Chinese financial market. It is possible to see its growth in recent years. By the end of April 2020, there are more than 50 crowdfunding platforms operating in donation-based, equity-based and return-back types of crowdfunding (Zhongchoujia, 2020). However, the development of this industry is not that smooth and stable. From January 2020 to April 2020, there have been seven platforms that have closed their websites and offer to the market (Zhongchoujia, 2020). Thus, in the data sample selection, we try to find an object with stable operating conditions and a reliable industry background to be sure the platform will be running smoothly during the data collection period. According to the "Industry report of Crowdfunding in China 2018", in the first half of 2018, the 'Colourful Invest' platform obtained ¥382.55million in equity-based crowdfunding projects, which was the most significant amount achieved in all the operating equity-based crowdfunding platforms in China (Zhongchoujia, 2018), one of the projects – 'Morocco Chara Hotel' absorbed ¥66million capital through, which was the highest funds amount of a single project in the first six months of 2018 (Zhongchoujia, 2018). Besides, the 'Colourful Invest' platform has a powerful endorsement team, which is stated on their info page that the platform itself is supported by Mr Lei Jun and his company 'XIAOMI' Group, had successfully raised over ¥100million in four rounds of financing, including venture capital. It is evident, however, that the current political and economic environment of equity crowdfunding is not quite bright and clear, while the operating status of many same-typed platforms is not that steady. 'Colourful Invest' still operates smoothly and is stable. This is one of the critical reasons we choose this platform to be the object of observation.

Beyond that, the platform needed to have relevant and transparent access to projects' data. However, many of the projects have more than one round of fundraising and are still going on. To get a more secure result, we chose to use the data sample of those projects that have been successfully funded with more detailed information about the project, entrepreneurs and financial condition. We believe those projects offer fully abundant data that is more clear and easier to process in the empirical analysis model needed to better observe project performance.

4.3.2 The 'Colorful Invest'(Duocaitou) platform investment process

The 'Colourful Invest' offers limited access to the general browsers with the platform's history, endorsement, currently active projects and successful past cases. Potential investors can browse the project's status, management team information, 'Brand Story', location, company business model, financial projections, the purpose of capital raising, future development plan and the risk warning page. If the investors feel interested in investing in any specific campaigns, they need to register with the platform first, before starting the investment. With registration, users can peruse the complete information of the project alternatives. This information includes:

(1) the process of the campaign (open with rate of process, finished, or successfully exited),

(2) name of the company,

(3) raising scale (total target number of financing),

(4) time (how many days left for the round's fundraising),

(5) minimum pledge amount,

(6) investment plan (different packages with different pledge amount and duration),

(7) investment horizon (when the investors can redeem their principal and earnings),

(8) the upper limit of investment of each investor (e.g., pledge at ¥50000, the maximum investment size of a single investor should not be more than ¥150,000),

(9) expected return rate (with open offerings) or annual yield (with successful exited projects),

(10) withdrawal mechanism (whether there is a window phase of early determination), and

(11) risk control measures (Financing monitoring: e.g., periodical financing disclosure; Guarantee mechanism: e.g., Pledge of stock capital; Funds trusteeship: e.g., third-party payment platform).

After going through the information, if the investors decide to proceed, they are required to tick the consent of the risk disclosure before they pay the deposit, which is 1% of the investment amount, while the project is still 'open to booking' status. When a certain number of pledges has been booked that meets the minimum requirement, the project will start the 'subscription' which means the equity crowdfunding offerings become effective, then the intentioned

investors need to go through the platform disclaimer and sign the tripartite contract (between the investor, the projector and the platform), then pay the rest 99% investment amount once off within 48 hours, which means they have the privilege to access the effective offerings to lock the buying of equity before it opens to the public. There is a cooling-off period option for those investors who are not quite sure about the decisions if the investors change their mind within 24hours after paying the deposit, they can apply to have all the money back. However, the prerogative of withdrawal can only be used twice for each project; after 24 hours, the investors do not have any opportunities to regret the deposit. The platform can offer a credit voucher valued at the same amount as the deposit to the investors who do not pay the retain amount when the 'subscription' finishes for their next investment on the platform within six months.

The 'Colourful Invest' platform especially points out in their disclaimer that, if the offerings occur major failure during the process due to projectors' malicious acts, such as misrepresentation, misleading or deceptive conduct, early termination of fundraising, or refuse to accept the fund after successfully crowdfunding, the platform promises double compensation of the deposit to investors. Like most of the equity crowdfunding platforms in the world, the minimum number of bookings to launch an offering usually depends on the targeted funding amount and differs significantly from venture to venture (Ahlers et al., 2015).

If the project hits the budget within the pre-determined time frame, investors' payment will be treated as a "successful subscription", then the money will be transferred to support the project under the platform's supervision mechanism. Hence, there would be no circumstances for a refund at this stage. Nevertheless, different from the 'All or Nothing' rule carried out by most of the donation/ rewards-based crowdfunding platforms (e.g., Kickstarter, Indiegogo), as an equity crowdfunding platform, the "Colourful Invest' tries to count every pledge as a valid investment and prompt every campaign as much as they can. When the time is up, but the budget has not been made, 'Colourful Invest' still offers the founders to accept the funding if the rate of the process is over 80%, the project is able to be processed to the next stage if the founders show evidence to the platform that they can make the retain by themselves or from other financial resources. In this situation, investors also have the right to withdraw their money after three days if they feel not confident enough with the project that does not reach 100% of the funding scale otherwise, the funded money will be used to support the project, and investors are eligible to expect their return on investment as stated. For those projects collect under 80% of the target amount, or between 80% to 100% of the target, but the founders do not accept to

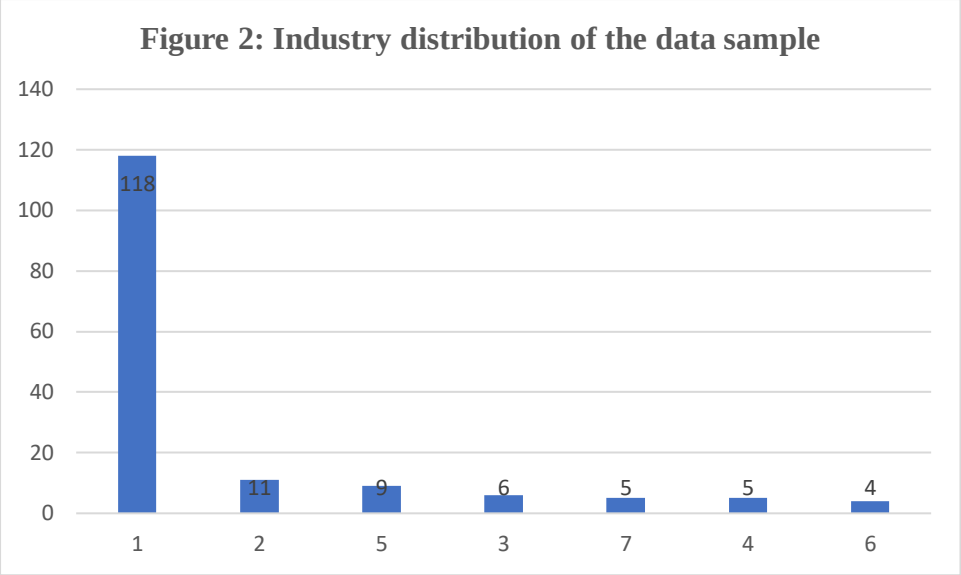
buy the retain to make its budget, the campaign will be considered as ‘unsuccessful’, and all the buying will be fully refunded to the investors, including their deposit.

4.3.3 Data Overview of ‘Colorful Invest’ platform

We collected all the available data of the 177 projects that have successfully exited from 26th Feb 2016 to 30th Oct 2020, including the speed of the project pledging period, investment amount, percentage of target achieved, displayed board members’ information and the projects’ honour and awards. During the data collection process, we find the platform also shows the annual yield rates of successfully exited projects, so that we also collect this volume as it can be one of the most directly perceived figures of projects’ success, especially for the unsophisticated investors.

After briefly sorting out the first-hand data, we found that the platform provided relevantly transparent data; however, in terms of the entrepreneurs’ information, instead of giving perceptible information of entrepreneurs, there are seven projects that use their company profile, 5 of them list employees’ information, and 7 of them just ignore the requirement of providing any information of the entrepreneurs. Even though in some of the cases, we can tell the project posts its principal members’ information instead of the entrepreneurs, because of the industry particularity, such as the executive chef’s profile for a restaurant project, or a popular DJ for a night club project. We still treat this as invalid information as they are not the ‘real’ entrepreneurs of the project, which should be the owner and operator of the campaign. We removed these 19 projects out of the dataset and only used the remaining 158 projects.

We can see that most equity crowdfunding campaigns on the ‘Colourful Invest’ platform mainly focus on entity space operating and cultural tourism industry related projects, hospitality and retail are the mainstream of the campaigns, also includes some projects from related sectors, such as food processing, health and wellbeing and agriculture (see chart 1). These 158 projects are all business-to-customer type entrepreneur and dispute in 7 sub-industries: 118 of the campaigns in hotel and BnB (118),11 campaigns of dining and catering (e.g. restaurant, café, bar), 9 of rental apartments, 6 of co-working space (e.g. office), 5 of entertainment (e.g. KTV, night club), 5 of health and lifestyle (e.g. gym, hospital, confinement centre) and 4 of new retail (e.g. 3c product experience store).



4.3.4 Social media data collection

Since the research is taken in the Chinese equity crowdfunding market context, we try to use the domestic social media data to promptly test its impact on the Chinese economic background. We believe the most used and greatly influenced social media platforms in the current Chinese cyber environment should be 'Weibo'- the most popular public social media platform, and 'WeChat'- the most extensively used private communication software with the 'Official Accounts' function which is the most influenceable owed media platform with public access.

(1) The data collection from Weibo

By the end of September 2020, 'Weibo' will have more than 511 million active users registered on the platform, averagely over 224 million people are using the platform daily (Sina Weibo Data Center, 2021). 'Weibo' is named from the meaning of microblog, which means a user can share an instant message within 140 words at any time and at any place; they can also attach pictures, upload videos, share articles and insert external URL links to support the content. The enormous user quantity and alarming information spreading speed on Weibo make it the easiest way to have instant communication with the public, so most of the merchants would like to create an official account with Weibo as a window to communicate with their audiences, such as the current and future customers, associates, and sometimes potential investors. The 'Colorful Invest' equity crowdfunding platform we investigate also has its official Weibo account since they start the very first project. The account now has 50,000 followers on Weibo and updates frequently, sharing the process of selected equity crowdfunding projects operated by the platform. Also, most of the ventures that launched projects with 'Colorful Invest' has a

Weibo account even though it was not built for attracting investors intendedly, it should be the only approach to express their aspiration of fundraising to the mass.

On Weibo, the information pathway is open to all the registered users, people do not need to follow the account to access the user's blog, so 140 words message and attachments might be seen by anyone browsing on Weibo. Besides, other followers can see on someone's homepage if he/she 'liked' a posting even without forwarding or commenting, which is a silent clue with the interest of something. Here, we gathered all the original Weibo postings regarding promoting the 158 equity crowdfunding campaigns posted by both the platform and the projector on their official accounts, counting all the comments, forward postings and likes as the social media figure. Also, we add the readership, which is the user viewed times collected by the third-party crawler software as another figure of the social media. When calculating the campaign-related posting post by the platform, we search by the campaign's name and count all the parade postings before the campaign starts and the updating posts during the crowdfunding period; the reviews after fundraising are not included in the figure. In terms of the posting by each venture, we use the keywords of 'Colourful Invest (Duocaitou)' / 'crowdfunding'/ 'equity'/ 'investment' / 'be the equity holder' to make sure all the eligible postings are included. Also, we limit the time as before and during the ongoing projects, as some of the ventures has more than one/ one round of equity crowdfunding program. We noticed that the backers on 'Colourful Invest' cannot share the campaign link on Weibo from the platform straightaway from the user interface; they need to forward the posting from the platform when users click into the forwarded link, they can still be directed to the invest page on 'Colourful Invest' platform.

(2) The data collection from WeChat

WeChat is no doubt the most widely and most frequently used online communication tool in current China. According to the 'WeChat Data Report 2020', by the end of the first quarter of 2020, there was more than 1.2 billion accounts active on the platform (Tencent Techonology, 2020). Apart from the essential chat functions like text message, voice call, video call and share pictures, videos and files, WeChat also has a social section 'Moments' for the users to share their life with their WeChat friends. Different from the public access of Weibo, the WeChat Moments is only accessible to the users' contacts; they can even choose who the content will be shared or not shared with. Besides the function 'Moments', WeChat also has another public social platform called 'Official Accounts'. It is used to share articles through an authenticated account established by ventures, organizations or even individuals; users do not need to follow

the account or know other users who comment under the article but view the content and comments below the article. If the reader clicks on the 'viewing' button on the article page, the reader's WeChat contacts will also see the article in the 'Top Stories' section and marked it as 'Friends viewing'. It is like the 'like' function on Weibo, like an unintended promoting measure to share information with social media friends. The 'like' function on official accounts can only stand for a thumb up to the article by the readers but cannot be seen by others; it indicates the popularity of the article.

Similarly, while collecting the data from WeChat's 'Official Account', we filtered all the articles on 'Colourful Invest' and each venture's official account that promote the 158 equity crowdfunding campaigns, collected all the comments, likes, reads, and 'viewings' into the social media figure. When calculating the campaign-related posting post by the platform, we search by the campaign's name and count all the parade postings before the campaign starts and the updating posts during the crowdfunding period; the reviews after fundraising are not included in the figure. In terms of the posting by each venture, we search the keywords including 'Colourful Invest (Duocaitou)' / 'Crowdfunding'/ 'equity'/ 'investment' / 'be the equity holder' to make sure all the eligible postings are included. Also, we limit the time as before and during the ongoing projects, as some of the ventures have more than one/ one round of equity crowdfunding program.

4.4 Analytical methods

Taking Ahlers et al. (2015) measurements to measure the performance of the campaign, the following data has been collected from the platform and analysed in SPSS. The definitions for all variables listed below are in Table 6.3.

(1) Human capital, (2) Social capital, (3) Intellectual capital, (4) the amount of funds raised, (5) speed of fundraising, (6) percentage of target reached, (7) annual yield rate, and (8) further control variables.

4.4.1 Independent Variables

(1) Human capital

In Ahlers et al. (2015) study, the researchers count the number of board members and the proportion of them holding an MBA as the indicators of entrepreneurs' human capital in equity crowdfunding. However, these measurements seem to be a bit inconsiderable in two aspects. Firstly, at the early stage of start-ups, the size of the board is relevantly small, there is quite a few start-ups that start with only the entrepreneur himself. If there is only one person being the

board member, the number of executive/non-executive and the proportion of holding an MBA turns to a yes-no question, the answer of either 0 or 1 narrows down the dimension of human capital that obviously does not have enough reference value. Besides, unlike the sophisticated investors who are used to seeing a company's board in a panorama point of view and could predict its potential value by evaluating their complementary human capitals (Kaplan & Stromberg, 2004), the crowdfunding investors with fewer investment experiences usually treat each board member's human capital resource separately. Therefore, if one of the board members has launched one or more successful projects before, the crowdfunding investors would definitely treat this type of entrepreneurs with higher human capital, which is enough to signal the quality of their firms (Piva & Rossi-Lamastra, 2018), a number of executive/ non-executive team members does not develop a significant difference.

Secondly, Ahlers et al. (2015) measurements limit the dimensions of human capital and disregard the diversity of human capital in different fields and areas (Carmeli, 2004). It is worth noting that these different dimensions could affect differently on decreasing the information asymmetries between entrepreneurs and crowd funders. In contrast, under the premise of human capital's significant impact on equity crowdfunding, some other researchers come up with different criteria of the signals. According to Piva and Rossi-Lamastra (2018), human capital signals with both a good fit and less ambiguity have a better effect with signalling the success of equity crowdfunding. Based on an empirical estimate of 284 entrepreneurs, the authors argue that an entrepreneur's business education degree and entrepreneurial experience meet the requests that significantly contribute to the success of equity crowdfunding (Piva & Rossi-Lamastra, 2018).

As the framework of our research is based on is Ahler's et al. (2015), we also take the business education as a proxy of social capital. As Ahlers etc. (2015) define entrepreneurs' retaining of business education by entrepreneurs' holding of MBA degree based on the Australian star-ups business feature, the standard is relatively too high and somehow impractical based on the general education level and business environment in China. Regarding the indicator of social capital, we take the entrepreneurs have had business education or not as the key measurement. We count the board members' business education attainment with bachelor or above degrees, including MBA, EMBA and other business-related majors such as business administration, finance and accounting, commerce and management, as human capital.

(2) Social capital

When the earlier researchers talk about the dimensions and indicators of social resources, they already realize that "in the social sciences, where many of our explanatory concepts refer to symbolic behaviour, intrapersonal processes, and other equally intangible phenomena, we need to be even more creative and diligent in our instrumentation (Singer, 1982)," they also point out that social capital could be the indicator to test the intrapersonal process as it builds up the internal link between groups of people, and the individual behaviour can be the visible indicator of the social capital itself Sander and Lee (2014); (Singer, 1982). Thus it is necessary to make sure people have the access to reach each other (N. Lin, 2001), and ensure the people involving in can be benefited from the shared information and resources in a defined group, to "secure the people their situation or make they're live more valuable" (Sander & Lee, 2014).

In terms of the examination of a board member, due to the uniqueness of service and retailing industries, we find most of the projectors provides a longer list than usual, listed almost all the managers and administrative staff to show up the industry feature, such as the chief cook for restaurant, experienced store manager for retail shop and architect for the theme designed hotel, We treat this as a marketing method to express the industrial advantages but does not mean they are equivalent to board members. We treat board members as all the listed members on the project detail page, with the title of Founder, Co-founder, Creator, Partner or CEO. Other management titles, such as COO, CFO, Executive Manager, Marketing Director or Store manager, are not counted as board members.

Similarly, we use the same criteria to examine the board members' entrepreneurial experience. As mentioned before, it is believed that projectors are willing to say their previous entrepreneur experience on the information page to make the project more reliable and trustable to attract more potential investors if they do have this kind of experience. On 'Colourful Invest', it is also the requirement by the platform that projectors are encouraged to provide their entrepreneur experience as detailed as possible. We investigate the information page of the board members of each project and ceck how the entrepreneurs describe their past business associate experience; we take the projectors' previous experience as 'Entrepreneur' if they have participated in other businesses in the past or currently joining in other business with the title of Founder, Co-founder, Creator, Partner or CEO. Different management positions, such as COO, CFO, executive manager, general managing director or store manager, are treated as employees.

(3) Intellectual capital

Intellectual capital has been described as one of the most valuable intangible assets of a company, it is the "intellectual material-knowledge, information, intellectual property, experience- that can be put to use to create wealth" (Stewart & Ruckdeschel, 1998). It is noticed that in current information era, knowledge has become one of the driving factors of increasing productivity and growing economy, while the global economy is more and more knowledge-reliable that technology, learning and information have taken a crucial place in the development of an enterprise (Organisation for Economic Cooperation and Development., 1996).

According to Ahlers et al. (2015), following Silverman and Baum (2002) and Baum and Silverman (2004) structure, they use one of the most common selected indicators of intellectual capital, which is the granted patent for the crowdfunding venture or specific campaign. It is worth noting that the projects listed on ASSOB are most technological or innovative types; whether there is a patent granted to the project or venture could be a significant indicator of the entrepreneurs' intellectual capital and may impact the result of fundraising. However, the launch of the campaign on the 'Duocaitou' platform are mainly focused on service and retail domains; it is very difficult to build up a visible connection between the ownership of a patent with the success of a service-oriented project. Besides the granted patent, industrial-award is also another frequently-chose indicator for many researchers to analyse the efficiency of intellectual capital. It is believed that an industry admired award also plays a positive role in both branding promotion and business performance-enhancing (Z. Li, Chen, Lui, & Chu, 2016) as it "identifies organizations which are outperforming their peers by above-average growth in intellectual capital and wealth creation"(MAKE, 2015) and has been chosen by many researchers as the measurement of intellectual capital in their business-related research (Ahlers et al., 2015; Iazzolino & Laise, 2013; Z. Li et al., 2016), especially when value intellectual capital in the context of Chinese capital market (Kai Wah Chu, Hang Chan, & Wu, 2011).

Hence, we choose to take the industrial award as the indicator of intellectual capital to match the operation type of the platform. Here, we only count the industry-admired awards once the campaign has already been awarded before its launch on the platform, any awards in the entrepreneur's own name or after the campaign has been launched is not included. For instance, an Architecture Award for a theme-designed holiday hotel, a Michelin star for a restaurant or a service industrial award for a service apartment is counted, but an award for the architect, chief chef or general manager is not included. The variable will be indicated as award (1), or not (0).

4.4.2 Dependent variables

(1) Investment amount

The total amount of funding that has been collected in the project, since the fund generated on the 'Colourful Invest' is quite huge in RMB (average above 12.4 million), we use the unit of 10000 yuan to calculate the number.

(2) Completion of target

The extent the project has achieved its present target after fundraising finished, usually higher than 100% as the projects are successfully funded; however, due to the operating mechanism of the platform mentioned before, there are still a few projects that succeed but has not been entirely funded (reached more than 80% but less than 100% of the target amount).

(3) Speed of investment

The number of days the project took to finish the funding process indicates the days of the project duration.

(4) Annual yield rate

The yearly returns rate of the project, as the 158 data samples have all successfully exited from the platform, we believe the rate of return on investment could be a more visualized indicator of the projects' performance.

4.4.3 Moderating variables

Social media figures, the total number of social media activity of the project on both Weibo and WeChat official accounts, includes: all the Weibo postings posts by the entrepreneur/ official venture account of the project and the 'Colourful Invest' platform official account regarding the project before fundraising finished. This includes all the 'likes', 'forward', comments and views of those postings, all the articles posted on both the project's official WeChat account and the 'Colourful Invest' platform official WeChat account regards to the project before the fundraising finished, and all the 'likes' comments, 'viewing' and reads of the articles.

4.4.4 Control variables

In addition to the above variables, in line with Baum and Silverman (2004) and Ahlers et al. (2015), we consider certain additional control variables that may have the possibility to influence the performance of the project or impact on other variables during the funding process. The additional control variables are listed below.

(1) Target amount

The ‘Colourful Invest’ platform requires entrepreneurs to set the target amount before launching the project (in 10000 yuan); the projectors also need to mention on the information page if they have completed any projects on ‘Duocaitou’ before and how much the funding amount was. It is believed the pre-set target amount has a significant influence on the final result of the project; projects with higher funding goals usually obtain more funds as the pool is more important than the projects with small funding goals (Pichler & Tezze, 2016), it is also suggested that when closing to the final goal, investors may be more willing to contribute to the fund seeking (Fan-Osuala, Zantedeschi, & Jank, 2018).

(2) Number of board members

Although we do not recognize Ahlers et al. (2015) measurement of using the number of board members as the indicator of human capital, we understand the number of board members has a particular influence on investors’ investment aspiration it is evident that with more board members, there is more potential capital resources, social networks and human resources. Hence, we also take the number of board members as an additional control variable.

(3) Location

As mentioned above, most campaigns launch on the ‘Colourful Invest’ is space project and tourism-related (e.g. hotel and BnB) or retail typed (e.g. restaurant or new retail store), it is worth noting that location may impact on the judgement of investors at some certain degree, the big city with more visitor flow will surely be easy to accumulate enough capital to exit so that investors can get return sooner than those projects located in the small cities. We mark the location as the capital city of the country/province/stage as (1) and the non-capital city as (0).

(4) Exit strategy

We record the exit strategy of each project as the control for the fact that projects performance may differ with respect to the window phase. Whether there is a window phase when investors decide to exit the project may impact their investment intent because this factor contributes directly to the waiting time that how long investors can get the money and benefit (if any) back. Here, we indicate the exit strategy of the project as window phase (1) or not (1).

(5) Chain brand

It is worth noting that in the 158 projects, quite a few were launched under the name of some established chain brands, such as MEHOOD Hotel, ATOUR Hotel, Crystal Orange Hotel. We can understand this is a kind of alliance business of chain brands, which the franchise is being

granted to their distribution partners- who are the real fund seekers of the project and might be start-ups. However, people may still be attracted by the resounding name of those chain brands by the stereotype images of good reputation or powerful business strength. Therefore, we criteria the indicator as the project belongs to a chain brand (1) or not (0).

4.4.5 Variables and definitions

Table 4 provides the definition of variables.

Table 4: Definition of variables

Independent variables	Definitions	Indicator	Reference
Social capital	Networks and business linkages are important channels through which firms can access additional and often complementary resources	Entrepreneur experience	(Ahlers et al., 2015) Piva and Rossi-Lamastra (2018)
Human capital	"Higher" human capital is related to higher capabilities and skills about various aspects of entrepreneurial success: identifying and exploiting business opportunities	Business education	(Ahlers et al., 2015) (Sander & Lee, 2014)
Intellectual capital	Ownership of an industry admired award also delivers technical information to potential investors that would otherwise be difficult to communicate, such as that the organization has reached a certain stage of development	Award (1) or not (0)	(Ahlers et al., 2015) (Z. Li et al., 2016)

Dependent variables	Description	Indicator	Reference
Project completion	The extent of the equity crowdfunding target had reached when fundraising finished	Percentage of the project target (%)	(Ahlers et al., 2015)
Investment amount	The total funding amount that was generated by the project in RMB	Amount number of total investment	(Ahlers et al., 2015)
Speed of completion	The number of days the project took to finish the funding process indicates the days of the project duration	Number of days to complete the funding	(Ahlers et al., 2015)
Annual yield rate	The annual return of the equity crowdfunding projects	Rates of the income benefit	(Ahlers et al., 2015; Cumming & Zhang, 2016)

4.5 Summary

This chapter presents the structure and process of the research defines the variables definition, data sample selection and analysis methods. The limitation of the data collection is also. Obviously, the data sample is relatively small compared to the previous empirical studies on equity crowdfunding due to the unmatured situation of China's equity crowdfunding.

CHAPTER 5: RESULTS

5.1 Introduction

This chapter presents the result of the data process that tests the hypotheses raise in 3.2. It has been divided into five sections: Section 5.1 does an overview of the descriptive statistics, compare the differences between equity crowdfunding projects using/ not using social media; Section 5.2 proposes the multivariate model to examine the signals (independent variables) to test the Hypothesis, also briefly analysed the multivariate result; Section 5.3 contains the MLR tests results of the moderating effect of social media impacts on each of the measurement (speed of the project, completion of the project, investment amount, and the annual yield rate of the project), a short analysis of each of the results is also included; Section 4 and Section 5 have two rounds of robustness test to confirm the stability and rationality of the research model, positive outcomes showed in the results.

5.2 Descriptive statistics and data overview

5.2.1 Key descriptive findings

Table5 contains descriptive statistics of the variables in all the 158 samples collected. There are evident disparities between the statistics of the observed units in the speed of project completion, investment amount, completion of target and the social media activities figures. In terms of the projects' completion speed, the average time a project takes to reach the fundraising goal is 24.03 days; the duration of each project varies from as short as three days to if 589 days for 1 round of funding. The projects' investment amount starts from 480,000 RMB to 100 million RMB; the average amount is 12.4086 million RMB which is quite a substantial considerable number in the equity crowdfunding context. Most of the projects exceed their fundraising target much higher than expected; the mean extent of the target completion is as high as 303.86%, while the highest project collects 2057.67% of its original fundraising goal. Also, the figures of the entrepreneurs' and platform's activities on social media present vast distance between each other; while some of the campaigns maintain absolute silence on social media, the most active project proposes more than 54,000 activities during the fundraising duration, the next section will compare the statistic differences between the social media active/inactive campaigns.

Table 5: Descriptive statistics

		N	Minimum	Maximum	Mean	Std. Deviation
1	Speed of completion (days)	158	3	589	24.03	48.817
2	Investment amount（0000¥）	158	48	10000	1240.86	1677.307
3	Completion of target (%)	158	45.00%	2057.67%	303.38%	276.20%
4	Annual yield rate	158	0.00%	20.00%	10.09%	3.15%
5	Number of board member	158	1	10	2.02	1.35
6	Business education	158	0.00%	100.00%	17.67%	32.77%
7	Entrepreneurship experience	158	0.00%	100.00%	53.58%	42.67%
8	Award (0/1)	158	0	1	0.14	0.347
9	Social media activities	158	0	54148	3605.06	5670.93
10	Valid N (listwise)	158				

Table 6: Mean differences of social media active/inactive projects:

	No. of observations	Social media active projects	No social media promotion projects	Dif. test	SS	MS	F	P-value
Target	158	395.37	436.85	-41.48	51500.57	51500.57	0.30	0.58
Min pledge	158	2.43	2.44	-0.01	0.00	0.00	0.00	0.98
Speed of completion	158	27.13	14.54	-12.59	4660.36	4660.36	1.97	0.16
Investment amount	158	1219.86	1304.95	-85.09	212680.47	212680.47	0.08	0.78
Completion of target (%)	158	300.93%	310.84%	-9.91%	0.29	0.29	0.04	0.85
Number of board member	158	2.1	1.77	0.33	3.23	3.23	1.78	0.18
Business education	158	16.88%	20.09%	-3.21%	0.03	0.03	0.28	0.60
Entrepreneurship experience	158	51.96%	58.50%	-6.54%	0.13	0.13	0.69	0.41
Award	158	14.29%	12.82%	1.47%	0.01	0.01	0.05	0.82
Annual yield rate	158	10.00%	10.79%	-0.79%	0.00	0.00	2.63	0.11
Exit structure	158	36.97%	38.46%	-1.49%	0.01	0.01	0.03	0.87
Capital Location	158	62.18%	66.67%	-4.49%	0.06	0.06	0.25	0.62
Chain brand	158	68.91%	69.23%	-0.32%	0.00	0.00	0.00	0.97
Valid N (listwise)	158							

5.2.2 Overview of the mean differences between projects using/ NOT using social media:

To test whether there is a moderating effect of social media impact on the equity crowdfunding's performance, we start with a univariate comparative test of the mean differences between projects that use social media to promote their campaigns and the projects that do not do so (see Table6). We include all the 158 samples in the test as all of them provide all the variables we need, then compare the differences of the statistics between the campaigns using/not using social media to see the actual impact of social media on the performance of equity crowdfunding campaigns. After processing the data sample, we surprisingly found that there are 39 projects showing 0 in the social media activity figure, which proportioned 24.68% of the total data sample. As all the projects involved in the sample have fully or partially exited from the fundraising, they are already "successfully" to some extent. However, ¼ of the observation samples do not involve any social media promotions, which reminds us to doubt if social media plays any significance on equity crowdfunding's performance.

Table 6 indicates the mean differences between the projects that promote themselves on social media and the ones not active on social media: Going through the figures between these two groups, we should say that at a first image, the projects with social media activities are somewhat at a disadvantage comparing to the ones which are not using social media. On the one hand, while the investment amount is averagely less at ¥850,900, the speed of social media active projects to complete the fundraising is also distinctly slower than the no social media promotion projects. Besides, social media active projects also show weakness on both social capital and human capital, as they have more board members than the no social media promotion projects but with few board members obtained business education or entrepreneurship experience. On the other hand, social media active projects show an advantage at intellectual capital, with more projects being granted industry-admired awards but fewer projects located in capital cities. It seems that the start-ups with innovative characteristics but less experienced are more willing to use social media to promote their campaigns this may be due to the limited financial and social resources of the unsophisticated entrepreneurs. Thus, they need to appeal to more potential investors online to meet the fundraising goal, even though the targets are relevantly lower.

Although the results of the comparative test are a bit unexpected, it is still too early to say if social media plays a positive or negative impact on the performance of equity crowdfunding from this simple univariate test. To verify whether social media has a moderating effect on the

equity crowdfunding result, we then have a multi-variate regression test to further explore the dynamics between social media and equity crowdfunding.

5.3 Empirical model results

5.3.1 Multivariate model to test the impacts of signals

To test the hypotheses, we raised in 3.2; we need to certify the function of the signals, proving whether the social capital, human capital and intellectual capital have a significant effect on the performance of equity crowdfunding should be the cornerstone of the research. Multiple linear regression model will be used to test the data; the performance of equity crowdfunding campaigns will be measured as below:

$$y=\beta_0+ \beta_1.x_1+ \beta_2.x_2+ \beta_3.x_3 + (\dots) + \beta_n. x_n +\varepsilon$$

Where β_0 is the constant term, $x_1, x_2, x_3 \dots x_n$ are the independent variables and additional controls, ε is the notation for deviation, y is the dependent variable to measure the performance of equity crowdfunding campaigns.

First, we investigate the determinants that affect the project's final investment amount. We process the first-hand data collected from 'Colourful Invest' in SPSS and use the method of MLR (multiple linear regression) to test which independent variables or additional controllers are significant to the dependent variables. Note that for the best understanding of the data process result, we pre-process the statistics of human capital, social capital, intellectual capital, and social media activity by standardising the figures before processing. Afterwards, we use MLR to test the effect of human capital, social capital, and intellectual capital on the funding amount, the time duration that an equity crowdfunding project takes to finish the fundraising, the completion extent, and the annual yield rate of the campaigns, the results are presented in Table 7- Table 10.

In line with Hypothesis1, in Table 8, the figures show the statistically significant empirical evidence that the entrepreneurs' business education has a positive effect on the speed of funding, but not the entrepreneurship experience or award granted, which confirms Hypothesis1(a) at the first place. The statistical interpretations reflect similar result (significance of human capital but not social capital or intellectual capital) with Ahlers et al. (2015), but need further confirmation in the second round moderating test with social media variable. Moreover, the statistics present empirical evidence of equity crowdfunding start-ups and platform's activity on social media also suggests a positive significance in the projects' completion speed (see Table 8) and annual yield rate of the equity crowdfunding projects

(Table10), indicates the positive effect of social media activity on the equity crowdfunding performance on these 2 measurements, which confirms Hypothesis 2(a).

Additionally, it is noted that some of the control variables also presents statistical significance to the performance of equity crowdfunding. The affiliation of a chain brand is also positive and statistically significant on the result of funding amount (Table 7), the speed of fundraising completion (Table 8) and the full extent of the project (Table9). Besides, the number of a board member is also significant to the annual yield rate (Table 10). Also, we can see that whether there is a window phase of the project's exit mechanism has a positive effect on the project's funding amount to a certain extent (Table 7). However, it is surprising to see that, then take the total investment amount of an equity crowdfunding project to measure its success, none of the factors of business education of entrepreneurs, entrepreneurship experience of entrepreneurs, industry admired award of the venture or the activity on social media plays a significant influence on the result of the funding amount (Table 7).

In terms of the signals tested in the hypotheses, there is no evidence of any significance of social capital, human capital, or intellectual capital impacts on the annual yield rate measurement of the success of equity crowdfunding. Nevertheless, when testing the signals effect on the percentage of target the project has reached, we find that none of the social capital, human capital or intellectual capital is significant to the result; even the social media activity by the crowd funders and platform does not play an effect influence (see Table 9). No additional control variables work on any differences of the result either. This is an astonishing result since the R-squared of the model is reasonably fit, but all the x (independent variables) is not significant to the y (extent of the target reached), which reminds us to suspect if the percentage of the target is a rational measurement of the performance of equity crowdfunding.

Table 7: Factors effecting the funding amount of equity crowdfunding project

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	505.59	125.52		4.028	0		
Number of board member	-24.703	35.472	-0.061	-0.696	0.487	0.922	1.085
Exit structure	215.979	101.713	0.183	2.123	0.036*	0.944	1.059
Capital location	-10.446	99.57	-0.009	-0.105	0.917	0.961	1.04
Chain brand	246.961	107.969	0.207	2.287	0.024*	0.863	1.159
Business education	-8.288	48.382	-0.015	-0.171	0.864	0.963	1.039
Entrepreneurship experience	15.673	50.396	0.028	0.311	0.756	0.852	1.174
Award	-40.784	52.464	-0.069	-0.777	0.438	0.905	1.105
Social media activity	-65.368	46.475	-0.121	-1.407	0.162	0.946	1.057

Model: $y=\beta_0+\beta_1$. Business education$+\beta_2$. Entrepreneurship experience$+\beta_3$. Award $+\beta_4$. Social media$+\beta_5$. Board$+\beta_6$. Exit$+\beta_7$. Location$+\beta_8$. Chain brand $+\varepsilon$. Note: y is the total funding amount of each project, Business education = Business education attainment of board members, Entrepreneurship experience= Board members' entrepreneurship experience, Award= Industry- admired award, Social media= Social media activity, Board= Number of board member, Exit= Exit mechanism, Location= Business location, Chain brand= Affiliation of chain brand. *Indicates the statical significance at 0.05.

Table 8: Factors effecting the completion speed of equity crowdfunding project

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	20.459	2.113		9.683	0		
Number of board member	0.368	0.583	0.051	0.631	0.529	0.931	1.074
Exit structure	0.059	1.633	0.003	0.036	0.971	0.932	1.073
Capital location	0.176	1.618	0.009	0.109	0.914	0.956	1.046
Chain brand	-4.355	1.777	-0.202	-2.451	0.015*	0.882	1.134
Business education	1.923	0.779	0.195	2.468	0.015*	0.961	1.041
Entrepreneurship experience	0.876	0.817	0.088	1.073	0.285	0.895	1.118
Award	0.723	0.802	0.074	0.902	0.368	0.892	1.121
Social media activity	2.624	0.809	0.257	3.245	0.001*	0.955	1.047

Model: $y=\beta_0+\beta_1$. Business education$+\beta_2$. Entrepreneurship experience$+\beta_3$. Award $+\beta_4$. Social media$+\beta_5$. Board$+\beta_6$. Exit$+\beta_7$. Location$+\beta_8$. Chain brand $+\varepsilon$. Note: y is the completion speed of each project, Business education = Business education attainment of board members, Entrepreneurship experience= Board members' entrepreneurship experience, Award= Industry- admired award, Social media= Social media activity, Board= Number of board member, Exit= Exit mechanism, Location= Business location, Chain brand= Affiliation of chain brand. *Indicates the statical significance at 0.05.

Table 9: Factors effecting the extent of target equity crowdfunding projects reached

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	194.294	33.719		5.762	0		
Number of board member	2.718	9.361	0.024	0.29	0.772	0.942	1.062
Exit structure	24.869	26.27	0.08	0.947	0.345	0.927	1.079
Capital location	8.719	25.861	0.028	0.337	0.736	0.964	1.038
Chain brand	66.251	28.081	0.204	2.359	0.02*	0.873	1.145
Business education	-3.61	12.666	-0.023	-0.285	0.776	0.966	1.035
Entrepreneurship experience	-14.605	12.99	-0.097	-1.124	0.263	0.884	1.131
Award	-8.022	12.805	-0.054	-0.626	0.532	0.884	1.131
Social media activity	-20.615	12.299	-0.138	-1.676	0.096	0.959	1.043

Model: $y=\beta_0+\beta_1$. Business education$+\beta_2$. Entrepreneurship experience$+\beta_3$. Award $+\beta_4$. Social media$+\beta_5$. Board$+\beta_6$. Exit$+\beta_7$. Location$+\beta_8$. Chain brand $+\varepsilon$. Note: y is the percentage of target reached by each project, Business education = Business education attainment of board members, Entrepreneurship experience= Board members' entrepreneurship experience, Award= Industry- admired award, Social media= Social media activity, Board= Number of board member, Exit= Exit mechanism, Location= Business location, Chain brand= Affiliation of chain brand. *Indicates the statical significance at 0.05.

Table 10: Factors effecting the annual yield rate of equity crowdfunding

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	10.196	0.48		21.227	0		
Number of board member	-0.469	0.132	-0.26	-3.562	0.001*	0.935	1.07
Exit structure	0.647	0.373	0.128	1.736	0.085	0.923	1.083
Capital location	0.593	0.368	0.116	1.615	0.109	0.963	1.038
Chain brand	0.444	0.401	0.083	1.109	0.269	0.882	1.133
Business education	0.071	0.176	0.029	0.403	0.688	0.962	1.039
Entrepreneurship experience	-0.107	0.186	-0.043	-0.575	0.566	0.89	1.124
Award	-0.042	0.186	-0.017	-0.225	0.822	0.887	1.127
Social media activity	-0.978	0.177	-0.399	-5.535	0.00*	0.961	1.041

Model: $y=\beta_0+\beta_1$. Business education$+\beta_2$. Entrepreneurship experience$+\beta_3$. Award $+\beta_4$. Social media$+\beta_5$. Board$+\beta_6$. Exit$+\beta_7$. Location$+\beta_8$. Chain brand $+\varepsilon$. Note: y is the annual yield rate of each project, Business education = Business education attainment of board members, Entrepreneurship experience= Board members' entrepreneurship experience, Award= Industry- admired award, Social media= Social media activity, Board= Number of board member, Exit= Exit mechanism, Location= Business location, Chain brand= Affiliation of chain brand. *Indicates the statical significance at 0.05.

5.3.2 The moderating effect of social media on equity crowdfunding performance

To test the moderating effect of social media impacts on equity crowdfunding performance, we pre-process the variables to obtain the product term of social media figure and entrepreneurs' business education, social media figure and entrepreneurs' entrepreneurship experience, social media figure and the industry-admired award granted of the equity crowdfunding projects, then we also process all the variables and product terms through SPSS and use the model of MLR to examine the moderating effect, the model should be:

$$y=\beta_0+ \beta_1.x_1+ \beta_2..M+ \beta_3. x_1 .M + \beta_4.x_2 + \beta_5.x_3 +..+\beta_n.x_{n+2}\varepsilon$$

Where β_0 is the constant term, $x_1, x_2, x_3 \ldots x_n$ are the independent variables and additional controls, ε is the notation for deviation, y is the dependent variable to measure the performance of equity crowdfunding campaign, M is the moderate variable which is the pre-processed figure indicates the project's social media activity on Weibo and WeChat. After processing the data in SPSS, we find that the moderate variable has certain effect onto the performance of equity crowdfunding: When measure the performance of equity crowdfunding by the projects' completion speed, we can see that the product term of social media and entrepreneurship experience is significant (see Table 12), here the result suggests the social capital's positive significance on the equity crowdfunding performance when the social media is moderating its effect, particularly in the completion speed, which proves the Hypothesis1(a). While measuring the performance by the annual yield rate of the project, it can be seen that the product term of social media and the entrepreneurs' business education figure is significant (see Table 14), which again proves the signalling effect of human capital on the equity crowdfunding performance, then further proves that the activity on social media positively moderates the equity crowdfunding performance on the project's social capital and human capital, but no evidence indicates any moderating impact on intellectual capital, which partially supports Hypothesis 2 (b). No significant result can be seen of the moderating impact on the equity crowdfunding investment amount, or the percentage of target reached.

From the displayed statistical analysis result, we can see that from all these four models tested above, 2 of them are more suitable to interpret the social media's moderating effect on the equity crowdfunding performance, which are:

$$\text{Funding Speed} =\beta_0+ \beta_1. \text{Experience}+ \beta_2. \text{Social media}+ \beta_3. \text{Experience. Social media} +\varepsilon$$

and

$$\text{Annual Yield Rate} =\beta_0+ \beta_1. \text{Education}+ \beta_2. \text{Social media}+ \beta_3. \text{Education. Social media} +\varepsilon$$

Where the Funding Speed and the Annual Yield Rate are the indicators of equity crowdfunding performance, Experience is the indicator of social capital which stands for the project founder's entrepreneurship experience, Education is the indicator of human capital which stands for the board member's business education attainment, and Social Media is the moderate variable and stands for the project's promotion activity on social media platform. The 2 models answer the research question and help to better understand the moderating effect, while the other two does not show significance on the results, this could be an evidence that the other measurements of equity crowdfunding performance and the other indicator of independent variables might not be fitted for this research topic but need further discussion.

Table11: Moderating effect of social media plays on the equity crowdfunding amount

	Unstandardized Coefficients		Std. Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
	B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
(Constant)	521.681	129.939		4.015	0.00	264.516	778.846		
Number of board member	-28.486	36.053	-0.07	-0.79	0.431	-99.839	42.867	0.9	1.111
Exit structure	211.651	103.246	0.18	2.05	0.042	7.314	415.987	0.924	1.082
Capital location	5.982	102.884	0.005	0.058	0.954	-197.637	209.602	0.908	1.101
Chain brand	220.657	110.139	0.185	2.003	0.047	2.679	438.636	0.837	1.195
Business education	1.007	49.932	0.002	0.02	0.984	-97.816	99.829	0.912	1.097
Entrepreneurship experience	14.317	50.697	0.026	0.282	0.778	-86.018	114.653	0.849	1.178
Award	-40.695	54.32	-0.068	-0.749	0.455	-148.201	66.81	0.851	1.175
Social media activity	-66.4	58.615	-0.123	-1.133	0.259	-182.406	49.607	0.6	1.667
Social media activity X business education	59.853	83.495	0.077	0.717	0.475	-105.394	225.1	0.611	1.637
Social media activity X entrepreneurship experience	-62.906	49.599	-0.134	-1.268	0.207	-161.068	35.257	0.638	1.568
Social media activity X award	43.653	55.893	0.078	0.781	0.436	-66.966	154.272	0.714	1.401

Note: Dependent Variable: investment amount. 137 samples processed after removing the abnormal data diagnosed by the Casewise Diagnostics.

Table12: Moderating effect of social media on the equity crowdfunding completion speed

	Unstandardized Coefficients		Std. Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
	B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
(Constant)	19.853	2.122		9.354	0	15.657	24.049		
Number of board member	0.515	0.577	0.071	0.893	0.373	-0.625	1.655	0.919	1.088
Exit structure	0.339	1.633	0.017	0.208	0.836	-2.889	3.567	0.9	1.111
Capital location	0.145	1.643	0.007	0.088	0.93	-3.103	3.392	0.896	1.116
Chain brand	-3.738	1.797	-0.173	-2.081	0.039	-7.29	-0.187	0.833	1.201
Business education	1.988	0.793	0.201	2.506	0.013	0.42	3.557	0.894	1.118
Entrepreneurship experience	0.969	0.807	0.097	1.202	0.232	-0.625	2.564	0.886	1.128
Award	0.397	0.803	0.041	0.494	0.622	-1.191	1.985	0.858	1.166
Social media activity	4.243	1.017	0.415	4.173*	0	2.233	6.253	0.583	1.714
Social media activity X business education	0.74	1.277	0.053	0.579	0.563	-1.785	3.265	0.684	1.461
Social media activity X entrepreneurship experience	2.325	1.024	0.26	2.271*	.025**	0.301	4.35	.441***	2.27****
Social media activity X award	-0.388	0.991	-0.039	-0.391	0.696	-2.348	1.572	0.59	1.694

Note: Dependent Variable: Speed of completion. 153 samples processed after removing the abnormal data diagnosed by the Casewise Diagnostics. *,**,***,**** indicate the statistical significance at |t|>1.96, sig<0.05, tolerance>0.1, VIF<5.

Table13: Moderating effect of social media on the extent of target equity crowdfunding

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
	B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
(Constant)	197.77	34.641		5.709	0	129.282	266.257		
Number of board member	1.153	9.483	0.01	0.122	0.903	-17.595	19.901	0.922	1.084
Exit structure	24.49	26.757	0.078	0.915	0.362	-28.41	77.39	0.897	1.114
Capital location	12.546	26.652	0.04	0.471	0.639	-40.146	65.239	0.911	1.097
Chain brand	61.005	28.458	0.188	2.144	0.034	4.743	117.268	0.854	1.17
Business education	-3.637	12.855	-0.024	-0.283	0.778	-29.052	21.778	0.943	1.061
Entrepreneurship experience	-14.255	13.026	-0.094	-1.094	0.276	-40.008	11.499	0.883	1.132
Award	-7.556	13.077	-0.051	-0.578	0.564	-33.409	18.298	0.852	1.174
Social media activity	-29.916	14.977	-0.201	-1.998	0.048	-59.526	-0.307	0.65	1.539
Social media activity X business education	-2.861	20.277	-0.014	-0.141	0.888	-42.951	37.228	0.705	1.419
Social media activity X entrepreneurship experience	-19.49	13.226	-0.149	-1.474	0.143	-45.637	6.658	0.643	1.556
Social media activity X award	11.245	14.403	0.074	0.781	0.436	-17.231	39.72	0.723	1.383

Note: Dependent Variable: Percentage of target. 152 samples processed after removing the abnormal data diagnosed by the Casewise Diagnostics

Table14: Moderating effect of social media on the annual yield rate of equity crowdfunding

	Unstandardized Coefficients		Std. Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
	B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
(Constant)	10.073	0.486		20.735	0	9.113	11.034		
Number of board member	-0.455	0.131	-0.252	-3.463	0.001	-0.715	-0.195	0.92	1.087
Exit structure	0.73	0.375	0.144	1.944	0.054	-0.013	1.472	0.892	1.121
Capital location	0.593	0.375	0.116	1.579	0.117	-0.149	1.334	0.906	1.104
Chain brand	0.498	0.403	0.093	1.235	0.219	-0.299	1.294	0.855	1.17
Business education	-0.013	0.179	-0.005	-0.073	0.942	-0.367	0.341	0.91	1.099
Entrepreneurship experience	-0.112	0.184	-0.045	-0.609	0.544	-0.477	0.252	0.888	1.126
Award	-0.063	0.187	-0.025	-0.335	0.738	-0.432	0.307	0.858	1.166
Social media activity	-1.125	0.215	-0.459	-5.241	0.00	-1.549	-0.701	0.638	1.567
Social media activity X business education	-0.644	0.285	-0.19	-2.258*	.026**	-1.208	-0.08	.693***	1.443****
Social media activity X entrepreneurship experience	0.181	0.192	0.084	0.944	0.347	-0.198	0.56	0.615	1.625
Social media activity X award	0.057	0.206	0.023	0.274	0.785	-0.352	0.465	0.706	1.416

Note: Dependent Variable: Annual yield rate. 151 samples were processed after removing the abnormal data diagnosed by Casewise Diagnostics. *,**,***,**** indicate the statistical significance at |t|>1.96, sig<0.05, tolerance>0.1, VIF<5.

5.4 Robustness test of the empirical model by changing the size sample

To confirm the robustness of the model and ensure the reliability of the data analysis result, we process a robustness test through SPSS, replacing the variable with a smaller size. In the 158 data samples, the industry of hotel and BnB accounts for the most significant number of the observation samples, 118 out of 158. We take the 118 projects' data reprocess in the SPSS using the same MLR model with the same variables' selection criteria of the full data size.

Dependent variables: Funding amount of the project; Funding speed of the project; Campaign's completion extent; Campaign's annual yield rate. Independent variables: Entrepreneurs' business education; Entrepreneurs' entrepreneurship experience; Projects' industry admired award.

Moderating variables: Projects social media activity by the star-up and equity crowdfunding platform.

Control variables: number of board members, exit structure of the campaign (whether there is a window phase or not), Project's location (whether located in the capital city or not), affiliation of chain brand.

5.4.1 Robustness test of the multivariate model by changing the size sample

To test the robustness of the multivariate model which used to explore the effect signal impact on the performance of equity crowdfunding, the independent variables have also been pre-processed before processing in the MLR model; the results are displayed as below:

Table 15: Factors effecting the funding amount of Hotel & BnB industry equity crowdfunding performance

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	9.452	456.633		0.021	0.984		
Number of board member	123.936	128.635	0.088	0.963	0.337	0.941	1.063
Exit structure	699.989	346.474	0.189	2.02	0.046*	0.897	1.114
Capital location	226.241	333.434	0.062	0.679	0.499	0.933	1.072
Chain brand	1126.52	379.65	0.29	2.967	0.004*	0.82	1.219
Business education	172.234	166.65	0.095	1.034	0.304	0.938	1.067
Entrepreneurship experience	-225.48	171.763	-0.124	-1.313	0.192	0.883	1.133
Award	-118.229	175.661	-0.065	-0.673	0.502	0.844	1.185
Social media activity	-193.452	168.283	-0.106	-1.15	0.253	0.92	1.088

Model: $y=\beta_0+\beta_1$. Business education$+\beta_2$. Entrepreneurship experience$+\beta_3$. Award $+\beta_4$. Social media$+\beta_5$. Board$+\beta_6$. Exit$+\beta_7$. Location$+\beta_8$. Chain brand $+\varepsilon$. Note: y is the total funding amount of each project, Business education = Business education attainment of board members, Entrepreneurship experience= Board members' entrepreneurship experience, Award= Industry- admired award, Social media= Social media activity, Board= Number of board member, Exit= Exit mechanism, Location= Business location, Chain brand= Affiliation of chain brand. *Indicates the statical significance at 0.05.

By analysing the result of the smaller sized data samples, we can see the significant signal are precisely the same with the full-sized data samples: When measure the equity crowdfunding 's performance by its funding amount, none of the entrepreneurs' business education, entrepreneurship experience or the start-ups' industry admired award is significant. But the control variables of having a window phase in the projects' exit structure and being a member of a chain brand shows statistical significance (Table15), which verifies the result in Table 7.

Table 16: Factors effecting the completion speed of Hotel & BnB equity crowdfunding projects

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	19.387	2.485		7.802	0.00		
Number of board member	0.488	0.696	0.062	0.7	0.485	0.932	1.072
Exit structure	0.861	1.861	0.042	0.463	0.644	0.907	1.103
Capital location	1.08	1.818	0.053	0.594	0.554	0.922	1.085
Chain brand	-4.803	2.051	-0.221	-2.342	0.021*	0.826	1.21
Business education	2.206	0.893	0.218	2.47	0.015*	0.941	1.063
Entrepreneurship experience	-0.238	0.927	-0.023	-0.257	0.798	0.897	1.115
Award	0.051	0.948	0.005	0.054	0.957	0.834	1.199
Social media activity	4.443	1.037	0.386	4.284	0.00*	0.905	1.105

Model: $y=\beta_0+\beta_1$. Business education$+\beta_2$. Entrepreneurship experience$+\beta_3$. Award $+\beta_4$. Social media$+\beta_5$. Board$+\beta_6$. Exit$+\beta_7$. Location$+\beta_8$. Chain brand $+\varepsilon$. Note: y is the completion speed of each project, Business education = Business education attainment of board members, Entrepreneurship experience= Board members' entrepreneurship experience, Award= Industry- admired award, Social media= Social media activity, Board= Number of board member, Exit= Exit mechanism, Location= Business location, Chain brand= Affiliation of chain brand. *Indicates the statical significance at 0.05.

In terms of measuring the campaigns' performance by the funding speed (Table16), the results of the 118 Hotel & BnB equity crowdfunding projects also reflect the significance of entrepreneurs' business education, the social media activity by entrepreneurs and the equity crowdfunding platform also plays a positive impact on the 118 projects' performance. The affiliation of the chain brand shows statistically evidence again on the campaigns' funding speed. The result confirms the effects of social capital and human capital on equity crowdfunding performance, in line with Hypothesis 1. The social media activity's significant impact has also been verified with the smaller sample size, the signal impact of being a member of a chain brand has been highlighted again, which matches the result in Table8.

Table 17: Factors effecting the reach in target the Hotel & BnB equity crowdfunding projects

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	160.821	74.345		2.163	0.033		
Number of board member	32.067	20.943	0.145	1.531	0.129	0.941	1.063
Exit structure	85.285	56.41	0.147	1.512	0.133	0.897	1.114
Capital location	-24.629	54.287	-0.043	-0.454	0.651	0.933	1.072
Chain brand	104.687	61.811	0.172	1.694	0.043*	0.82	1.219
Business education	-13.219	27.132	-0.046	-0.487	0.627	0.938	1.067
Entrepreneurship experience	17.339	27.965	0.061	0.62	0.537	0.883	1.133
Award	-36.061	28.599	-0.126	-1.261	0.21	0.844	1.185
Social media activity	-23.488	27.398	-0.082	-0.857	0.393	0.92	1.088

Model: $y=\beta_0+ \beta_1$. Business education+ β_2. Entrepreneurship experience+ β_3. Award + β_4. Social media+ β_5. Board+ β_6. Exit+ β_7. Location+ β_8. Chain brand +ε. Note: y is the percentage of target reached by each project, Business education = Business education attainment of board members, Entrepreneurship experience= Board members' entrepreneurship experience, Award= Industry- admired award, Social media= Social media activity, Board= Number of board member, Exit= Exit mechanism, Location= Business location, Chain brand= Affiliation of chain brand. *Indicates the statical significance at 0.05.

Table 17 shows the factors effect on the completion extent of the Hotel & BnB equity crowdfunding campaigns, similarly to the previous description in 5.3.2, none of the dependent variables or the entrepreneurs' and platform's promoting activity on social media is significant to the result, while the control variable of being a member of the chain brand stands out for significance once again. The result also verifies the result in Table 9.

Table 18 Factors effecting the annual yield rate of Hotel & BnB equity crowdfunding campaigns

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	10.518	0.608		17.29	0.00		
Number of board member	-0.604	0.171	-0.305	-3.527	0.001*	0.941	1.063
Exit structure	-0.018	0.462	-0.004	-0.04	0.968	0.897	1.114
Capital location	-0.152	0.444	-0.03	-0.341	0.733	0.933	1.072
Chain brand	1.254	0.506	0.23	2.48	0.153	0.82	1.219
Business education	-0.151	0.222	-0.059	-0.678	0.499	0.938	1.067
Entrepreneurship experience	-0.149	0.229	-0.058	-0.653	0.515	0.883	1.133
Award	0.139	0.234	0.054	0.593	0.554	0.844	1.185
Social media activity	-0.763	0.224	-0.298	-3.404	0.001*	0.92	1.088

Model: $y=\beta_0+\beta_1$. Business education+ β_2. Entrepreneurship experience+ β_3. Award + β_4. Social media+ β_5. Board+ β_6. Exit+ β_7. Location+ β_8. Chain brand +ε. Note: y is the annual yield rate of each project, Business education = Business education attainment of board members, Entrepreneurship experience= Board members' entrepreneurship experience, Award= Industry- admired award, Social media= Social media activity, Board= Number of board member, Exit= Exit mechanism, Location= Business location, Chain brand= Affiliation of chain brand. *Indicates the statical significance at 0.05.

It is suggested that social media activity's impact has also been statistically evidenced on the performance of the 118 Hotel & BnB industry equity crowdfunding campaigns, while the number of board member also indicates significance on the result in Table 18. The significance of variables is corresponded with the result in Table 10.

5.4.2 Robustness test of the empirical model to test the moderating effect of social media impacts on equity crowdfunding performance by changing the size sample

To examine the robustness of the empirical model which used to investigate social media's moderating effect on equity crowdfunding performance, we also take the 118 Hotel & BnB industry samples extracted from platform's 158 data samples, after reprocessing the data through SPSS using the same model in Section 5.3.3, we can see the result is quite similar with the full-size data analysis. The results are represented in Table 19-Table 22.

Table 19: Moderating effect of social media on the Hotel & BnB equity crowdfunding

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
	B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
(Constant)	-55.975	477.923		-0.117	0.907	-1003.503	891.554		
Number of board member	133.749	132.023	0.095	1.013	0.313	-128	395.498	0.916	1.092
Exit structure	746.455	361.849	0.201	2.063	0.042	29.055	1463.855	0.843	1.186
Capital location	259.861	345.612	0.071	0.752	0.454	-425.347	945.07	0.89	1.123
Chain brand	1120.26	386.266	0.289	2.9	0.005	354.451	1886.069	0.812	1.231
Business education	189.917	218.816	0.104	0.868	0.387	-243.907	623.741	0.557	1.794
Entrepreneurship experience	-222.97	176.176	-0.122	-1.266	0.208	-572.255	126.316	0.86	1.163
Award	-142.341	182.852	-0.078	-0.778	0.438	-504.862	220.18	0.798	1.253
Social media activity	-241.307	201.962	-0.132	-1.195	0.235	-641.717	159.103	0.654	1.528
Social media activity X business education	-0.004	0.057	-0.009	-0.072	0.943	-0.117	0.109	0.503	1.99
Social media activity X entrepreneurship experience	23.143	207.656	0.012	0.111	0.911	-388.555	434.84	0.682	1.466
Social media activity X award	70.548	131.25	0.057	0.538	0.592	-189.668	330.763	0.721	1.388

Note: Dependent Variable: investment amount. 118 samples processed. $y=\beta_0+\beta_1 x_1+\beta_2 x_1 M+\beta_3.M+\beta_4 x_2+\beta_5 x_3+\varepsilon$
Where β_0 is the constant term, β_1, β_2, β_3, β_n are the independent variables and additional controls, ε is the notation for deviation, y is the dependent variable to measure the performance of equity crowdfunding campaign, M is the moderate variable which is the pre-processed figure indicates the project's social media activity on Weibo and WeChat.

Table 20: Moderating effect of social media on Hotel & BnB equity crowdfunding completion speed

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
	B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
(Constant)	42.209	13.724		3.076	0.003	15	69.417		
Number of board member	-3.215	3.791	-0.074	-0.848	0.398	-10.731	4.301	0.916	1.092
Exit structure	-9.717	10.39	-0.085	-0.935	0.352	-30.317	10.883	0.843	1.186
Capital location	-11.497	9.924	-0.103	-1.158	0.249	-31.173	8.179	0.89	1.123
Chain brand	0.023	11.092	0	0.002	0.998	-21.967	22.013	0.812	1.231
Business education	0.832	6.283	0.015	0.132	0.895	-11.625	13.29	0.557	1.794
Entrepreneurship experience	3.639	5.059	0.065	0.719	0.474	-6.391	13.668	0.86	1.163
Award	-0.391	5.251	-0.007	-0.075	0.941	-10.801	10.018	0.798	1.253
Social media activity	19.348	5.799	0.345	3.336	0.001	7.85	30.846	0.654	1.528
Social media activity X business education	-0.001	0.002	-0.048	-0.403	0.688	-0.004	0.003	0.503	1.99
Social media X entrepreneurship experience	14.107	5.963	0.24	2.366*	0.02**	2.285	25.929	0.682	1.466***
Social media X award	-12.922	3.769	-0.338	-3.429	0.136	-20.394	-5.45	0.721	1.388

Note: Dependent Variable: Speed of completion. 115 samples processed after removing the abnormal data diagnosed by the Casewise Diagnostics. $y=\beta_0+ \beta_1.x_1+ \beta_2.x_1 M+ \beta_3.M + \beta_4 x_2 + \beta_5 x_3 +\varepsilon$. Where β_0 is the constant term, $\beta_1, \beta_2, \beta_3, \beta_n$ are the independent variables and additional controls, ε is the notation for deviation, y is the dependent variable to measure the performance of equity crowdfunding campaign, M is the moderate variable which is the pre-processed figure indicates the project's social media activity on Weibo and WeChat. *, **, ***, **** indicate the statistical significance at |t|>1.96, sig<0.05, tolerance>0.1, VIF<5.

Table 21: Moderating effect of social media on completion extent of Hotel & BnB equity crowdfunding

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
	B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
(Constant)	156.016	77.259		2.019	0.046	2.843	309.19		
Number of board member	32.108	21.342	0.146	1.504	0.135	-10.205	74.421	0.916	1.092
Exit structure	91.718	58.495	0.158	1.568	0.12	-24.253	207.69	0.843	1.186
Capital location	-18.846	55.87	-0.033	-0.337	0.737	-129.613	91.922	0.89	1.123
Chain brand	102.801	62.442	0.169	1.646	0.103	-20.996	226.598	0.812	1.231
Business education	4.266	35.373	0.015	0.121	0.904	-65.864	74.396	0.557	1.794
Entrepreneurship experience	11.843	28.48	0.042	0.416	0.678	-44.621	68.307	0.86	1.163
Award	-39.006	29.559	-0.137	-1.32	0.19	-97.609	19.598	0.798	1.253
Social media activity	-19.505	32.648	-0.068	-0.597	0.551	-84.234	45.223	0.654	1.528
Social media X business education	-0.008	0.009	-0.108	-0.83	0.408	-0.026	0.011	0.503	1.99
Social media X entrepreneurship experience	-38.454	33.569	-0.128	-1.146	0.255	-105.007	28.099	0.682	1.466
Social media X award	13.743	21.217	0.071	0.648	0.519	-28.323	55.808	0.721	1.388

Note: Dependent Variable: Percentage of target. 113 samples processed after removing the abnormal data diagnosed by the Casewise Diagnostics. $y=\beta_0+ \beta_1 x_1+ \beta_2 x_1 M+ \beta_3.M + \beta_4 x_2 + \beta_5 x_3 +\varepsilon$. Where β_0 is the constant term, $\beta_1, \beta_2, \beta_3, \beta_n$ are the independent variables and additional controls, ε is the notation for deviation, y is the dependent variable to measure the performance of equity crowdfunding campaign, M is the moderate variable which is the pre-processed figure indicates the project's social media activity on Weibo and WeChat.

Table 22: Moderating effect of social media on annual yield rate of Hotel & BnB equity crowdfunding

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
	B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
(Constant)	10.624	0.539		19.715	0.00	9.555	11.693		
Number of board member	-0.593	0.147	-0.332	-4.04	0.00	-0.885	-0.302	0.913	1.095
Exit structure	0.28	0.408	0.059	0.686	0.495	-0.529	1.088	0.832	1.202
Capital location	-0.207	0.391	-0.044	-0.529	0.598	-0.981	0.568	0.874	1.144
Chain brand	1.132	0.439	0.226	2.576	0.011	0.26	2.004	0.8	1.251
Business education	0.087	0.243	0.038	0.357	0.722	-0.395	0.568	0.558	1.792
Entrepreneurship experience	-0.151	0.198	-0.064	-0.763	0.447	-0.543	0.242	0.862	1.16
Award	0.107	0.203	0.046	0.529	0.598	-0.295	0.509	0.799	1.252
Social media activity	-1.079	0.224	-0.467	-4.809	0.00	-1.523	-0.634	0.654	1.53
Social media activity X business education	0.556	0.232	0.229	2.397*	0.018**	0.096	1.015	0.677	1.478***
Social media activity X entrepreneurship experience	0.00	0.00	-0.192	1.733	0.086	0.00	0.00	0.503	1.989
Social media activity X award	-0.111	0.146	-0.071	-0.76	0.449	-0.401	0.179	0.712	1.405

Note: Dependent Variable: Annual yield rate. 115 samples processed after removing the abnormal data diagnosed by the Casewise Diagnostics. $y=\beta_0+ \beta_1.x_1+ \beta_2 x_1 M+ \beta_3.M + \beta_4 x_2 + \beta_5 x_3 +\varepsilon$. Where β_0 is the constant term, $\beta_1, \beta_2, \beta_3, \beta_n$ are the independent variables and additional controls, ε is the notation for deviation, y is the dependent variable to measure the performance of equity crowdfunding campaign, M is the moderate variable which is the pre-processed figure indicates the project's social media activity on Weibo and WeChat. *, **, ***, **** indicate the statistical significance at |t|>1.96, sig<0.05, tolerance>0.1, VIF<5. *, **, ***, **** indicate the statistical significance at |t|>1.96, sig<0.05, tolerance>0.1, VIF<5.

From the above results, it is indicated that for the smaller size of data sample, when measuring performance of equity crowdfunding by the projects' completion speed, the product term of social media and entrepreneurship experience is still significant (Table 20). This result is consistent with the result in Table 11. While measuring the performance by the annual yield rate of the project, the product term of social media and the entrepreneurs' business education figure is also significant (Table 22), which is also corresponded with the result in Table 14. The analysis proves that similarity that the activity on social media has certain moderating effect on the project's social capital and human capital, but no evidence indicates any moderating effect on intellectual capital, which revalidates the Hypothesis 2 (b).

5.5 Robustness test of empirical models by the supplemental variable method

To further confirm the rationality of the selection of variables and the stability of the research model, we have the second round of robustness tests using a supplemental variable method. To ensure the integrity of the impact of the possible signal on the crowdfunding performance, by reviewing the previous literature, we include another three independent variables to expand the research ground of test the Signalling impact of social capital, human capital, intellectual capital and the moderating effect of social media plays on the equity crowdfunding performance, namely: projects' target amount- the funding amount of each project pre-set by entrepreneurs(S. Liu et al., 2020), pledge amount- the investment amount of per share of each project (Kuo et al., 2020) and investment horizon – the predict investment return cycle for the investors to get a suitable return on investment - ROI (Janku & Kucerova, 2018).

5.5.1 Robustness test of the multivariate model with supplemental variables

Adding these variables into the multivariate model, we pre-process the variables before reprocessing the model in SPSS to re-test Hypothesis 1 and Hypothesis 2 (a), the statistical results are displayed as below:

Table 23: Factors effecting the funding amount of equity crowdfunding with supplemental variables

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	938.765	120.704		7.777	0		
Number of board member	21.082	37.652	0.023	0.56	0.577	0.86	1.163
Exit structure	-52.937	93.502	-0.023	-0.566	0.572	0.896	1.117
Capital location	-30.25	93.128	-0.013	-0.325	0.746	0.926	1.08
Chain brand	117.388	99.741	0.05	1.177	0.241	0.842	1.187
Business education	-8.251	43.009	-0.008	-0.192	0.848	0.915	1.093
Entrepreneurship experience	-11.785	47.784	-0.011	-0.247	0.806	0.777	1.287
Award	30.345	45.915	0.028	0.661	0.51	0.871	1.148
Social media activity	-71.174	43.351	-0.068	-1.642	0.103	0.868	1.152
Target amount (¥0000)	1002.353	59.481	0.854	16.852	0*	0.587	1.703
Pledge amount (¥0000)	60.089	59.534	0.051	1.009	0.315	0.581	1.722
Investment horizon	-9.107	44.287	-0.008	-0.206	0.837	0.901	1.11

Model: $y=\beta_0+\beta_1.x_1+\beta_2.x_2+\beta_3.x_3+(\ldots)+\beta_n.x_n+\varepsilon$. Note: y is the total funding amount of each project, $x_1, x_2, x_3, \ldots x_n$ are the business education of entrepreneurs, entrepreneurship experience of entrepreneurs, industry- admired award, social media activity, number of board member, exit mechanism, location, affiliation of chain brand, target amount, pledge amount and investment horizon. 135 cases processed after case wise diagnose. *Indicates the statical significance at 0.05.

Table 24: Factors effecting completion speed of equity crowdfunding with supplemental variables

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	21.966	2.604		8.435	0		
Number of board member	0.935	0.81	0.068	1.154	0.25	0.861	1.162
Exit structure	-3.88	1.971	-0.114	-1.969	0.051	0.887	1.128
Capital location	3.905	1.972	0.112	1.98	0.05	0.927	1.079
Chain brand	-6.379	2.14	-0.178	-2.981	0.003*	0.839	1.192
Business education	2.114	0.919	0.131	2.301	0.023*	0.919	1.088
Entrepreneurship experience	1.01	1.022	0.061	0.988	0.325	0.785	1.273
Award	1.399	0.973	0.085	1.438	0.153	0.864	1.158
Social media activity	2.678	0.944	0.167	2.838	0.005*	0.864	1.157
Target amount (¥0000)	-0.094	1.231	-0.006	-0.076	0.94	0.544	1.837
Pledge amount (¥0000)	-0.481	1.233	-0.029	-0.39	0.697	0.543	1.841
Investment horizon	11.782	0.954	0.711	12.351	0*	0.9	1.111

Model: $y=\beta_0+ \beta_1.x_1+ \beta_2.x_2+ \beta_3.x_3 + (\ldots) + \beta_n.x_n +\varepsilon$. Note: y is the total speed of completion of each project, $x_1,x_2,x_3,\ldots x_n$ are the business education of entrepreneurs, entrepreneurship experience of entrepreneurs, industry- admired award, social media activity, number of board member, exit mechanism, location, affiliation of chain brand. 142 cases processed after case wise diagnose. *Indicates the statical significance at 0.05.

Table 25: Factors effecting the extent of target the equity crowdfunding reached with supplemental variables

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	217.402	42.286		5.141	0		
Number of board member	-9.384	13.352	-0.064	-0.703	0.483	0.872	1.147
Exit structure	23.708	32.235	0.066	0.735	0.463	0.886	1.129
Capital location	13.333	32.069	0.036	0.416	0.678	0.931	1.074
Chain brand	71.879	34.92	0.191	2.058	0.042*	0.829	1.207
Business education	-2.687	15.093	-0.016	-0.178	0.859	0.913	1.095
Entrepreneurship experience	-8.722	16.614	-0.05	-0.525	0.6	0.778	1.285
Award	-14.031	15.766	-0.081	-0.89	0.375	0.861	1.161
Social media activity	-23.285	15.199	-0.139	-1.532	0.128	0.861	1.161
Target amount (¥0000)	-20.95	19.99	-0.121	-1.048	0.297	0.539	1.855
Pledge amount (¥0000)	32.321	20.047	0.185	1.612	0.109	0.543	1.841
Investment horizon	-7.426	15.442	-0.043	-0.481	0.631	0.899	1.112

Model: $y=\beta_0+ \beta_1.x_1+ \beta_2.x_2+ \beta_3.x_3 + (\ldots) + \beta_n.x_n +\varepsilon$. Note: y is the percentage of target reached by each project, $x_1,x_2,x_3,\ldots x_n$ are the business education of entrepreneurs, entrepreneurship experience of entrepreneurs, industry- admired award, social media activity, number of board member, exit mechanism, location, affiliation of chain brand. 139 cases processed after case wise diagnose.

Table 26: Factors effecting the annual yield rate of equity crowdfunding campaigns with supplemental variables

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	9.79	0.454		21.551	0		
Number of board member	-0.033	0.139	-0.018	-0.234	0.815	0.86	1.163
Exit structure	0.369	0.346	0.081	1.068	0.288	0.873	1.146
Capital location	0.528	0.345	0.113	1.53	0.129	0.927	1.079
Chain brand	0.058	0.376	0.012	0.154	0.878	0.83	1.205
Business education	0.008	0.157	0.004	0.048	0.962	0.921	1.086
Entrepreneurship experience	0.157	0.181	0.07	0.869	0.387	0.777	1.287
Award	0.067	0.169	0.031	0.397	0.692	0.857	1.167
Social media activity	-1.051	0.161	-0.5	-6.511	0*	0.858	1.165
Target amount (¥0000)	0.425	0.213	0.193	1.992	0.049*	0.54	1.851
Pledge amount (¥0000)	0.238	0.211	0.11	1.129	0.261	0.537	1.861
Investment horizon	0.276	0.162	0.127	1.697	0.092	0.903	1.108

Model: $y=\beta_0+ \beta_1.x_1+ \beta_2.x_2+ \beta_3.x_3 + (\ldots) + \beta_n.x_n +\varepsilon$. Note: y is the annual yield rate of each project, $x_1,x_2,x_3,\ldots x_n$ are the business education of entrepreneurs, entrepreneurship experience of entrepreneurs, industry- admired award, social media activity, number of a board members, exit mechanism, location, an affiliation of chain brand. 132 cases processed after case wise diagnose. *Indicates the statical significance at 0.05.

From the statistic results presented in Table23 and Table 25, we can see that after adding the three supplemental variables into the multivariate model, the results have been slightly changed: when measuring the equity crowdfunding performance by the campaigns' funding amount, the control variables of exit structure and chain brand do not show significance anymore (Table 23). In terms of the annual yield rate measurement, the control variable of number of board members are not significant either (Table25). Besides that, other variables stay the same significant after reprocessing with the supplementary variables: the entrepreneur's business education and is a member of a chain brand significantly impact on the equity crowdfunding performance (Table 24 & 25), and the promotion activity by start-ups and equity crowdfunding platform on social media plays a positive impact on the annual yield rate of the equity crowdfunding projects (Table 26). Therefore, although the significance of control variables has some differences, the conclusion of the results has not been changed.

In addition to that, 2 of the supplemental variables also show significance on the results of equity crowdfunding: the projects' target amount and investment horizon.

5.5.2 Robustness test of the empirical model to test the moderating effect of social media impacts on equity crowdfunding performance with supplemental variables

Testing Hypothesis 2(b) with the three supplemental variables, we pre-process the adding variables with the moderating variable to test the moderating effect of social media activity on the equity crowdfunding performance. The tables below show the tests result:

Table 27: Moderating effect of social media on the equity crowdfunding amount with supplemental variables

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
	B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
(Constant)	937.055	110.636		8.47	0	717.907	1156.204		
Number of board member	-27.482	34.316	-0.037	-0.801	0.425	-95.456	40.492	0.831	1.203
Exit structure	-0.391	84.493	0	-0.005	0.996	-167.756	166.974	0.895	1.117
Capital location	45.594	87.765	0.023	0.519	0.604	-128.253	219.44	0.858	1.165
Chain brand	85.338	90.065	0.043	0.948	0.345	-93.063	263.739	0.832	1.202
Business education	8.215	40.103	0.009	0.205	0.838	-71.222	87.651	0.896	1.116
Entrepreneurship experience	-39.132	43.118	-0.043	-0.908	0.366	-124.541	46.277	0.79	1.266
Award	-39.986	43.186	-0.042	-0.926	0.356	-125.53	45.557	0.857	1.167
Target amount	795.981	62.679	0.737	12.699	0	671.825	920.137	0.516	1.937
Pledge amount	190.46	57.187	0.194	3.33	0.001	77.183	303.737	0.514	1.945
Investment horizon	-12.695	43.686	-0.014	-0.291	0.772	-99.229	73.839	0.732	1.365
Social media activity X business education	12.657	61.13	0.01	0.207	0.836	-108.43	133.745	0.713	1.403
Social media activity X entrepreneurship experience	-32.157	42.973	-0.043	-0.748	0.456	-117.279	52.965	0.539	1.854
Social media activity X award	26.937	46.621	0.03	0.578	0.565	-65.41	119.283	0.633	1.58

Note: Dependent Variable: investment amount. 129 samples processed. $y=\beta_0+\beta_1.x_1+\beta_2.x_1.M+\beta_3.M+\beta_4.x_2+\beta_5.x_3+\varepsilon$
Where β_0 is the constant term, $\beta_1, \beta_2, \beta_3, \ldots \beta_n$ are the independent variables and additional controls, ε is the notation for deviation, y is the dependent variable to measure the performance of equity crowdfunding campaign, M is the moderate variable which is the pre-processed figure indicates the project's social media activity on Weibo and WeChat.

Table 28: Moderating effect of social media on equity crowdfunding completion speed with supplemental variables

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
	B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
(Constant)	20.825	2.487		8.372	0	15.902	25.748		
Number of board member	1.215	0.758	0.09	1.602	0.112	-0.286	2.716	0.847	1.181
Exit structure	-4.046	1.886	-0.121	-2.146	0.034	-7.778	-0.314	0.845	1.184
Capital location	3.144	1.931	0.092	1.628	0.106	-0.678	6.966	0.837	1.195
Chain brand	-5.087	2.04	-0.144	-2.494	0.014	-9.125	-1.05	0.809	1.236
Business education	2.206	0.881	0.14	2.504	0.014	0.462	3.949	0.864	1.157
Entrepreneurship experience	1.403	0.955	0.086	1.468	0.145	-0.488	3.294	0.784	1.275
Award	1.101	0.924	0.068	1.192	0.236	-0.727	2.93	0.827	1.21
Social media activity	4.076	1.146	0.26	3.556	0.001	1.808	6.344	0.506	1.978
Target amount	0.403	1.17	0.025	0.345	0.731	-1.912	2.718	0.522	1.915
Pledge amount	-0.768	1.175	-0.047	-0.653	0.515	-3.093	1.558	0.516	1.939
Investment horizon	10.844	1.087	0.67	9.975	0	8.692	12.995	0.598	1.673
Social media activity X business education	0.746	1.394	0.034	0.535	0.594	-2.013	3.504	0.653	1.531
Social media activity X entrepreneurship experience	2.078	1.118	0.151	2.158*	0.044**	-0.135	4.291	0.406***	2.463****
Social media activity X award	-0.113	1.083	-0.007	-0.104	0.917	-2.257	2.03	0.573	1.745

Note: Dependent Variable: Speed of completion. 140 samples were processed after removing the abnormal data diagnosed by Casewise Diagnostics. $y=\beta_0+ \beta_1.x_1+ \beta_2.x_1.M+ \beta_3.M + \beta_4.x_2+ \beta_5.x_3 +\varepsilon$. Where β_0 is the constant term, β_1, β_2, $\beta_{3,...}$ β_n are the independent variables and additional controls, ε is the notation for deviation, y is the dependent variable to measure the performance of equity crowdfunding campaign, M is the moderate variable which is the pre-processed figure indicates the project's social media activity on Weibo and WeChat. *, **, ***, **** indicate the statistical significance at |t|>1.96, sig<0.05, tolerance>0.1, VIF<5.

Table 29: Moderating effect of social media on completion extent of equity crowdfunding with supplemental variables

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
	B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
(Constant)	231.329	39.126		5.912	0	153.881	308.778		
Number of board member	-12.033	12.069	-0.092	-0.997	0.321	-35.922	11.857	0.857	1.167
Exit structure	1.885	29.631	0.006	0.064	0.949	-56.768	60.538	0.851	1.175
Capital location	14.502	29.953	0.044	0.484	0.629	-44.788	73.791	0.861	1.162
Chain brand	58.162	31.738	0.174	1.833	0.069	-4.661	120.984	0.808	1.237
Business education	-2.617	13.873	-0.017	-0.189	0.851	-30.078	24.844	0.87	1.149
Entrepreneurship experience	-13.285	14.926	-0.086	-0.89	0.375	-42.831	16.26	0.781	1.28
Award	-7.876	14.44	-0.051	-0.545	0.586	-36.458	20.707	0.825	1.212
Social media activity	-43.199	17.471	-0.291	-2.473	0.015	-77.781	-8.616	0.525	1.906
Target amount	-6.359	18.404	-0.041	-0.346	0.73	-42.788	30.07	0.512	1.954
Pledge amount	14.384	18.627	0.092	0.772	0.441	-22.486	51.255	0.511	1.956
Investment horizon	5.543	16.504	0.036	0.336	0.738	-27.126	38.211	0.632	1.582
Social media activity X business education	-18.722	21.733	-0.091	-0.861	0.391	-61.741	24.297	0.656	1.525
Social media activity X entrepreneurship experience	-26.926	16.602	-0.207	-1.622	0.107	-59.787	5.936	0.444	2.251
Social media activity X award	13.635	16.336	0.091	0.835	0.406	-18.702	45.971	0.611	1.637

Note: Dependent Variable: Percentage of target. 138 samples processed after removing the abnormal data diagnosed by the Casewise Diagnostics. $y=\beta_0+ \beta_1.x_1+ \beta_2.x_1.M+ \beta_3.M + \beta_4.x_2+ \beta_5.x_3 +\varepsilon$. Where β_0 is the constant term, $\beta_1, \beta_2, \beta_3,... \beta_n$ are the independent variables and additional controls, ε is the notation for deviation, y is the dependent variable to measure the performance of equity crowdfunding campaign, M is the moderate variable which is the pre-processed figure indicates the project's social media activity on Weibo and WeChat.

Table 30: Moderating effect of social media on the annual yield rate of equity crowdfunding with supplemental variables

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
	B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
(Constant)	9.61	0.461		20.827	0	8.696	10.524		
Number of board member	-0.016	0.138	-0.009	-0.112	0.911	-0.289	0.258	0.846	1.182
Exit structure	0.483	0.35	0.106	1.381	0.17	-0.21	1.177	0.832	1.202
Capital location	0.632	0.358	0.135	1.764	0.08	-0.077	1.341	0.842	1.188
Chain brand	0.042	0.378	0.009	0.112	0.911	-0.707	0.792	0.8	1.251
Business education	-0.069	0.161	-0.033	-0.432	0.667	-0.388	0.249	0.856	1.168
Entrepreneurship experience	0.169	0.179	0.076	0.945	0.346	-0.185	0.523	0.774	1.292
Award	0.037	0.171	0.017	0.219	0.827	-0.301	0.376	0.822	1.217
Social media activity	-1.2	0.213	-0.571	-5.634	0	-1.622	-0.778	0.481	2.078
Target amount	0.509	0.214	0.231	2.378	0.019	0.085	0.933	0.524	1.908
Pledge amount	0.138	0.213	0.064	0.65	0.517	-0.283	0.56	0.517	1.936
Investment horizon	0.245	0.198	0.113	1.241	0.217	-0.146	0.637	0.595	1.682
Social media activity X business education	-0.535	0.255	-0.184	-2.098*	0.038**	-1.04	-0.03	0.644***	1.553****
Social media activity X entrepreneurship experience	0.078	0.206	0.042	0.377	0.707	-0.33	0.485	0.394	2.535
Social media activity X award	0.172	0.197	0.081	0.871	0.386	-0.219	0.562	0.566	1.766

Note: Dependent Variable: Annual yield rate. 132 samples were processed after removing the abnormal data diagnosed by Casewise Diagnostics. $y=\beta_0+ \beta_1.x_1+ \beta_2.x_1.M+ \beta_3.M + \beta_4.x_2 + \beta_5.x_3 +\varepsilon$. Where β_0 is the constant term, β_1, β_2, β_3,... β_n are the independent variables and additional controls, ε is the notation for deviation, y is the dependent variable to measure the performance of equity crowdfunding campaign, M is the moderate variable which is the pre-processed figure indicates the project's social media activity on Weibo and WeChat. *, **, ***, **** indicate the statistical significance at |t|>1.96, sig<0.05, tolerance>0.1, VIF<5. *, **, ***, **** indicate the statistical significance at |t|>1.96, sig<0.05, tolerance>0.1, VIF<5.

The results with the supplemental variables adding into the test of the moderating effect of social media on equity crowdfunding performance suggest the same significance in the product terms. The social media activity by start-ups and equity crowdfunding platform has a particular moderating effect on the social capital and human capital when measuring projects' performance by campaigns' completion speed (Table 28) and annual yield rate (Table 30), which indicates the same significance with the result in Table12 and Table14. In line with the measurements of funding amount and completion extent, social media's moderating effect is not significant in either of the social capital, human capital, or intellectual capital (Table 27 & 29), that has been reflected in Table11 and Table13. No major change has occurred on the test rest after adding on these supplementary variables into the model, the moderating effect of social media activity when delivering the signal of entrepreneurs' business education experience remains significant under the enriched independent variables context. Thus, the

results of the original hypotheses have been confirmed again, and the stability of the empirical model has been further proved.

5.6 Results of robustness test of the models

The above statistics suggest the similarity of the data analysis results of both selected samples and full-sized samples although there are not many variables that show significance in the model, the significant variables are similar, which proves the robustness and feasibility of the research models and design structure, also reverifies the hypotheses. However, the result indicates distinct differences in the equity crowdfunding industry between the Chinese financial market and the western financial market, particularly on the signals which mean the success of the performance of equity crowdfunding. It is worth noting that some new signals show their significance in impacting the Chinese equity crowdfunding campaigns, such as being a member of a chain brand, while some of the conventional signals recognized by previous studies do not show any significance in the Chinese equity crowdfunding context. The reasons are worth to have further investigation and will be discussed in the next chapter.

CHAPTER 6: DISCUSSION AND RECOMMENDATIONS

6.1 Introduction

This chapter discusses the data analysis results, compares the result with the previous literature and existing theories, identifies new findings of the current equity crowdfunding market in China and proposes recommendations to the optimizing development of equity crowdfunding in China based on the findings. Section 6.2 demonstrates the research propositions of signals regards to the statistical analysis result; Section 6.3 discusses the limitations of equity crowdfunding industry in current China; Section 6.4 proposes recommendations for policy and regulations regards to the research results and the current context.

6.2 Research propositions – signals

This study is aimed to examine the signals impact of social capital, human capital and intellectual capital on equity crowdfunding performance investigate the moderate effect of social media on the success of equity crowdfunding. To fulfil the research purpose, this study has collected the data from both the equity crowdfunding platform and two leading social media platforms to obtain the quantitative research based on the Ahlers et al. (2015) model.

The study result indicates that in the Chinese equity crowdfunding context, the entrepreneurs' business education plays a particular significance on the performance of equity crowdfunding. This in turn suggests the rationality of social capital and human capital as signals of equity crowdfunding's success that has been recognized in Hypothesis 1.

Since much of the previous literature indicates the positive impact of social media on reward-based and donation-based types of crowdfunding, this research's findings also confirm the significance that social media plays on equity-based crowdfunding, which proves Hypothesis 2(a). Moreover, the moderating effect of social media on the performance of equity crowdfunding has been further confirmed, as the results propose that social media activities impact the speed of fundraising completion and projects' annual yield rates by moderating the entrepreneurs' entrepreneurship experience and business education experience factors. The result proves that the activity on social media has a certain moderating effect on the project's social capital and human capital, which partially supports Hypothesis 2 (b). Therefore, to a certain extent, the research question has been answered as the Hypotheses have been partially verified by the research results.

6.2.1 Correspondence with existing theories

- The signalling effect of social capital and human capital

In Chapter 2, numerous studies on crowdfunding have emphasized the special social attributes of social capital, arguing that online crowdfunding is both a financing platform and a social networking platform. It enables entrepreneurs' social opportunities online to meet investors directly and posing new challenges for entrepreneurs to build and mobilize social capital and share information socially. From this perspective, creators of equity crowdfunding projects are not only entrepreneurs but also social network builders (Kromidha & Robson, 2016). Therefore, as the data analysis result confirms the positive impact of social capital on the success of equity crowdfunding, based on the research, it argues that entrepreneurs should make full use of the particular social properties of the Internet crowdfunding context to address the information asymmetry problem.

The entrepreneurs' business education experience can be interpreted as signals to indicate the success of equity crowdfunding as a result suggest the statistical evidence on the project's completion speed. In line with the research in the field of entrepreneurship based on a social capital perspective, it is because that social capital reflected by entrepreneurs' business education experience not only serves as a channel for information flow build up social networks in entrepreneurial contexts (Engelberg et al., 2012; Hochberg et al., 2007) but also sending a positive signal to the investors that the entrepreneurs will be restrained the opportunistic behaviour of through an innate trust mechanism as the investors believe the entrepreneurs have been well-educated with business rules and knowledge of commercial principles, thus impacts the investors' decision and improves financing performance (Ferris et al., 2017). As the entrepreneurial stage progresses, the evolution of entrepreneurs' social network dynamics becomes more obvious and dramatic through social media activity. This dynamic perspective provides a new way of thinking about social network information sharing and entrepreneurial financing performance in the entrepreneurial phase.

- The signalling effect of social media activity

The result of the data analysis confirms the significance of social media on explain the measurement of both the equity crowdfunding project's funding speed, degree of completion and the annual yield rate. These 3 key measurements have been set to suggest the equity crowdfunding's success (Ahlers et al., 2015; Cumming & Zhang, 2016), which demonstrate that with more frequently update on social media indicates the campaign is more easily to get

better performance with quicker funding speed, higher extent of completion and higher annual yield rate. Social media's signalling effect of indicating crowdfunding's success has been verified again since this point of view has been established by prior research (Borst et al., 2018; C. Jiang et al., 2021; Sahaym et al., 2021).

As mentioned in Chapter 2.5, many of the existing crowdfunding studies have discussed information sharing, information asymmetry, and financing performance based on information asymmetry and signalling theory and have come to a relatively consistent conclusion that information sharing is an effective means to solve the information asymmetry problem (Ahlers et al., 2015; Courtney et al., 2017; Hornuf & Schwienbacher, 2017; Kromidha & Robson, 2016; Mollick, 2014). Due to the characteristic of online equity crowdfunding, social media's role as a pathway for information sharing has been approved. The data analysis result has statically evidenced the behaviour of information sharing through social media has a certain positive impact on the performance of equity crowdfunding, particularly on the speed of projects' completion and the projects' annual yield rate. Besides the theoretical correspondence, the result also highlights social media's practicability as a signal on result of equity crowdfunding campaigns, it is evidenced that online equity crowdfunding and social media (e.g., Weibo, WeChat) provide entrepreneurs with information sharing channels and transparency, diversity, and openness of information sharing are particularly evident for the investors to get direct communication with entrepreneurs and equity crowdfunding platforms, the frequent updating on social media gives investors more confidence and trust with their investment.

6.2.2 New Signal

In addition to the dependent variables, the results recognize some of the control variables not included in the conceptual framework that were identified with significance on equity crowdfunding performance. This finding could be treated as new signals of equity crowdfunding success, which has not been discussed before by other researchers, including:

- The equity crowdfunding start-up/entrepreneur is a member of a chain brand

These newly identified signals are all accommodated within the conceptual framework in 3.1.

The signal of being a member of chain brand

The data analysis result suggests that the project has the affiliation of a chain brand member are more likely to collect funds from the investors. The result has also been confirmed in the two rounds of robustness tests. The reasons could be easy to see by reviewing the current Chinese equity crowdfunding context. As mentioned in the research context, since equity

crowdfunding is quite a new emergence in the Chinese financial market, the industry is still being in an exploratory stage, both the equity crowdfunding entrepreneurs and platforms are seeking the appropriate signal to hit the potential investors while the unsophisticated investors are looking for the projects with the more consistent return. The incomprehension of the market operation of equity crowdfunding, the absence of face-to-face communication with the entrepreneurs and the lack of relevant regulation knowledge increases the sense of insecurity of the potential investors. To some extent, the affiliation of the chain brand provides a third-party endorsement of the equity crowdfunding campaigns. With the endorsement of the scale-forming enterprise, the equity crowdfunding projects seem to be more reliable with higher project stability and financial strength by the established development of parent company. It provides more confidence to investors who are lack of knowledge with the financial market and investment experience, thus increases the performance of equity crowdfunding campaigns.

Although the impact of third-party endorsement on equity crowdfunding has been highlighted by some previous studies (Courtney et al., 2017) (Kleinert. et al., 2020), the indicator signal of chain brand has not been disclosed by other researchers; this may be because the certain context of Chinese equity crowdfunding industry. Since crowdfunding is the fundraising tool for the start-ups which are difficult to get financial resources from the conventional banking and financial services, subsidiary corporation or subproject of chain brand seems not to be a possible subject that seeks financial support from the public. However, as mentioned in the literature, due to the high access standard of equity crowdfunding platforms regulated by the Chinese temporary equity crowdfunding regulation <*Opinion Draft*>, the "real" start-ups with less credit history and lack of capacity to pay interests have been obstructed out by the equity crowdfunding platforms. Besides, the ambitious attitude of current regulation upon Chinese equity crowdfunding aggravates the insecurity and unstable sense of investors about this new-emerging fundraising tool. At some stage, the chain branded company stands for legality also reflects more security and stability, therefore attracting more potential investors and impact on their investment decisions.

6.2.3 Observed differences

- The non-significance of Intellectual Capital

As mentioned in 5.3.1, in the test of Hypothesis1, the MLR model examines the effect of the signal on the performance of equity crowdfunding, the empirical research result indicates the entrepreneurs' experience of business education positively impact the equity crowdfunding campaigns that show the correlations between the social capital, human capital, and the result

of the projects as the business education experience offers positive signal to the investors. But no distinct significance can be seen by the impact of intellectual capital to the equity crowdfunding success, which is indicated by the equity crowdfunding firms obtain of industry admired award. While the study result by Ahlers et al. (2015) shows the positive impact of intellectual capital on successful equity crowdfunding, this study based on a similar research framework comes out with a contrary result using a different indicator of the same variable.

The original research by Ahlers et al. (2015) chose one of the most common indicators, of holding an industry patent, as the indicator of intellectual capital. It matches the technical characteristic of their data sample collected from ASSOB. In this empirical study, another frequently chosen indicator, the industry-admired reward, was taken as the indicator of intellectual capital. This was relevant, as the observed platform "Colourful Invest" focuses more on equity crowdfunding campaigns in space management types, such as hotel, air BnB, restaurants and offices. The acquisition of an industry reward has been presented on the platform's information page and is usually highlighted by the architectural award-winner and award-winning chef that suggests the standout of their building project or restaurant campaign. This has certain rationality of being the indicator of intellectual capital given the context of the data sample.

Therefore, the reason for the absence of significance of intellectual capital in the empirical result may be because the investors in the Chinese crowdfunding market are not that sensitive about the ventures and projectors' technical achievements, as much as the investors under the western context. Rather, in a Chinese context, it may be that investors focus more on other factors they feel could be the signal of the projects' future success. These include the entrepreneurs' education experience and activities through social media. Inexperienced investors may not also care about the technical issue of the projects with the absence of certain professional knowledge weakening the impact of intellectual capital on the investors' sensitivity. Thus, it has no significance in terms of impacting their investment decisions.

- The unsuited measurements of equity crowdfunding success

Nevertheless, it is noted that while the business education and social media activity plays a positive impact on the speed of the project's completion and annual yield rate, none of the dependent variables shows any significance on the funding amount and the complete extent of the equity crowdfunding campaigns. This result is consistent with Ahlers et al. (2015) research,

which reminds us to doubt the fitness of these two indicators of being the measurement of equity crowdfunding success.

As described in the key descriptive findings, the investment amount difference between the 158 data samples can be as much as tens of times. Also, the pre-set target amount and pledge amount varies from thousands to millions; here, the campaign's investment amount becomes a relative term since the figure division between campaigns is quite huge. For this reason, the extent of the project's completion depends on the campaign's investment amount also loses its effect of being the benchmark of funding success, since comparing the completion extent between the project with a target of ¥10million but achieves ¥8million in result with the project sets its target at ¥500,000 but receives ¥800,000 lacks rationality to judge the latter has a better achievement than the former. Therefore, under the current Chinese equity crowdfunding context, investment amount and the full extent of equity crowdfunding campaigns might not be appropriate measures to indicate success of equity crowdfunding.

Besides, as mentioned in 6.1.1, when takes the venture's promotion activities on social media as the potential signal to indicate funding performance, all the other 3 measurements (funding speed, funding completion extent, annual yield rate) shows significance but it is surprised that social media on its own is significant to explain all other indicators except for the funding amount measurement. Since the total funding amount of the crowdfunding project is easily to be recognized as a typical measuring standard for the funding success, which has been generally considered by both the unsophisticated investors and scholarly researchers (Bao & Huang, 2017; Beier & Waner, 2015; C. Jiang et al., 2021), the result of this study presents different outcomes. One possible reason is the size of data collection of this study is relevantly small and all from one platform, due to the particularity of hospitality industry, similar to the target amount mentioned above, the range of funding amount of the projects on this platform is quite huge, it could be as high as ¥99 million for an international hotel (The Morocco Chara Hotel Project), while for some small-sized B&B projects the total investment is as low as ¥40,0000-50,0000 but already much more beyond their original funding target. Under this context, simply compare the funding amount of projects to evaluate the performance of equity crowdfunding may not be a critical measurement.

In additional, many Chinese scholars in the discipline has recognized the impact of 'Lead investor' in the equity crowdfunding industry, particularly the impact on the project's funding performance(Y. Jiang, Ho, Yan, & Tan, 2018; X. Li, 2019; Y. Li, Ling, Zhang, & Wu, 2021).Since the Chinese equity crowdfunding industry is still in its initial stage, a lead investor

with wealth and reputation is like a “wind vane” for the unexperienced investors that holding a wait-and-see attitude towards the new emerging investment form, the lead investor’s investment behavior facilitates the followers’ follow-up investment and usually triggers the so called “Herd Effect”(Y. Jiang et al., 2018), thus increases the project’s amount of funding investment. However, the data about the “Lead investor” is uncovered in this study due to the information disclosure mechanism of the platform, this might be another reason of the result disparity of the funding amount measurement but need further investigation and research.

6.3 Limitations of current Chinese equity crowdfunding

The empirical models test Hypothesis 2, which finds a positive impact of social media on the campaign’s performance. This may prove that for an equity crowdfunding campaign that is looking for improving its funding speed or better annual yield rate, taking activities on social media to promote the campaign might be a good option. However, when goes back to the caparison result between the sample groups of projects using/ not using social media, the group which is active on social media takes few advantages on the result to compare with the group which is inactive on social media and even performs an inferior position in some respects.

When chain brand has been recognized as a new signal of the equity crowdfunding success in China, it is worth noting when reviewing the data samples, the chain branded projects are quieter on the social media platform and always end up with a dramatic number of investment amount. In contrast, the individual operating projects more actively promote on social media but usually receive only what their targets expected. The result triggers a real contradiction of the relations between social media promotion and equity crowdfunding performance. It is reasonable to assume that the big chain brand with high-profile may have more ‘followers’ off the rack. The chain brands usually operate more than one campaign on the equity crowdfunding, and some of the investors will have already been with previous projects of the chain brand. Thus, even while the chain branded projects do not act much on the social media platform, there might be more communication opportunities for the investors to reach the entrepreneurs both online and offline.

For those campaigns established by the actual “start-ups” for the very first time, not many existing followers are standing by. Naturally, these start-ups would automatically turn to the social media platform to get financial resources as much as they can to meet the fundraising target. Unfortunately, the underlying reason seems to logically form an infinite loop under current China’s equity crowdfunding atmosphere. Since equity crowdfunding is not allowed to

post a public advertisement in China, social media becomes the only practical pathway for equity crowd funders to promote their campaigns to the masses and seek public funds. However, given there are certain prohibitions on establishing the equity crowdfunding projects based on the temporary regulations in China, how to regulate the promotions on social media platforms remains blank in the present situation in the country. Thus, the social media platforms take the strictest level when filtering the sensitive words of the equity crowdfunding promotions posting. For example, saying "I have invested in this amazing project, follow me if you are also interested" will not be seen on Weibo. The platform will remind the publisher that the post contains certain impropriate words which may cause financial risks to others. Thus, the point of contradiction is that while social media platform is practically the only legal third party to promote equity crowdfunding campaigns, the social media platform itself has no idea what they should do to regulate the postings of equity crowdfunding. In other words, the temporary regulations define what should not be done by equity crowdfunding entrepreneurs and platforms but have not yet outlined what can be done. Thus, the social media platform must put high-level restrictions on the postings to minimise the platform's own operating risk. Hereby, the logic loop closes in the absence of certain regulations and end up with the dilemma that big chain brands might not care that much about in terms of the effect of social media as they can still raise necessary funds from existing investors. However, start-ups which are eager for the initial fund and looking for new investors are bound by uncertain constraints when going to seek funding help through the social media platform.

In this respect, it is worth thinking about whether the stage of current China's equity crowdfunding is departing from its original idea, which is the fundraising tool for SMEs to get the start-up capital. Hence, for the better development of the new-emerging equity crowdfunding industry in China, we argue that certain requirements should be established to better support the development of equity crowdfunding in current China.

6.4 Recommendations

Depending on the data analysis result and identified new signal, the current development and operation of equity crowdfunding platforms in China still encounter many legal obstacles and other restrictions. Not only can the industry itself not survive in a legal environment, but the protection of its investors' rights is also unfavourable. Those platforms also face many problems during their development in China, such as the lack of supervisory laws, the awkward status of equity crowdfunding platforms, the difficulty in controlling the supervisory intensity and balance point, and the operating risks and moral hazards of the platforms. Therefore,

corresponding with the previous literature, it is argued to form a supervisory system suitable for those platforms in China and to conduct reasonable supervision over those platforms are the primary challenge in developing this industry and protecting investors' rights.

Due to the ambitious identity of the entrepreneurs and the unclarified statement of their financial conditions, it should be noted that appropriate financing entities with legal and reasonable financing methods can promote the overall development of the equity crowdfunding industry and at the same time facilitate the legal protection of equity crowdfunding investors' rights. For equity crowdfunding investors, setting the threshold for access to equity crowdfunding financiers is the first step in protecting their rights. Although equity crowdfunding investors can take the initiative to decide whether to invest, on the one hand, the information is controlled by the financier and the equity crowdfunding platform, making it impossible for investors to correctly identify the authenticity of the information, and on the other hand, equity crowdfunding investors are not able to fully identify the investment risks due to their own expertise and experience. Here, social media platforms highlight their importance as a complementary communication tool between entrepreneurs and investors. As mentioned earlier, social media is the only pathway for investors to examine the projects' state of operation and identify whether the information provided by the entrepreneurs on the equity crowdfunding platform is accurate or not.

Understandably, the equity crowdfunding market in certain respects need to be regulated and supervised for its better development. Based on the research findings, we suggest the industry could be promoted in a variety of ways. These are discussed below.

6.4.1 Clarify the statutory disclosure obligations of financiers

The disclosure of project information by equity crowdfunding financiers often determines the decision making of equity crowdfunding investors, where rational investors can make sound choices and judgments through truthful disclosure of information and thus make reasonable investment choices. Investor protection in the securities sector is, in fact, the protection of investors' right to information, and the right to information of equity crowdfunding investors corresponds to the disclosure obligations of equity crowdfunding financiers.

In the equity crowdfunding model, if excessive information disclosure obligations are imposed on financiers, it will undoubtedly lead to an increase in their financing costs; and if the information disclosure obligations on financiers are not legalized, it is not only difficult to solve the information symmetry problem between equity crowdfunding investors and financiers, but

also difficult to solve the fraudulent situation in the process of equity crowdfunding. If equity crowdfunding investors are expected to identify risks, it will increase the cost of equity crowdfunding investments and limit the development of equity crowdfunding.

To strike a balance between the rights and obligations of financiers and equity crowdfunding investors, i.e., not to increase the financing costs of financiers but to consider the rights of investors, special regulations on the disclosure obligations of financiers are needed. Therefore, it is necessary to establish a suitable disclosure system for equity crowdfunding to achieve the protection of the development of the national equity crowdfunding industry and the rights of equity crowdfunding investors, which is of great significance.

With respect to the disclosure obligations of equity crowdfunding financiers, this needs to be made a mandatory obligation by the law, and financiers should be held legally responsible for any breach of this obligation. A mandatory disclosure system for equity crowdfunding is needed because equity crowdfunding investors will increase their investment risk if they do not have access to true, accurate and complete information. For this reason, the protection of equity crowdfunding investors' rights must be realized through the establishment of a mandatory disclosure system, which is an essential component of the core system for the protection of equity crowdfunding investors' rights. In view of the fact that it is too costly for individual equity crowdfunding investors to defend their rights, which is not conducive to the full exercise of their rights, the researcher believes that the administrative department can be the main party to pursue the liability of equity crowdfunding financiers for violating their disclosure obligations (alternative dispute resolution mechanism), so as to strengthen the role of administrative supervision for the majority of equity crowdfunding investors and save social resources and judicial resources. At the same time, while strengthening the legal disclosure obligations of financiers, it is also necessary to establish reasonable disclosure obligations and to improve the standard and quality of information disclosure by financing companies through the guidance of industry associations so that the disclosure of information by equity crowdfunding financiers can be legalized and standardized.

With respect to the establishment of a mandatory disclosure obligation system for equity crowdfunding, this disclosure obligation (for equity crowdfunding) should not be applied to listed companies. Rather, what is suggested is the establishment of a disclosure obligation system that is appropriate to the development of equity crowdfunding and the protection of the rights of equity crowdfunding investors. The disclosure obligations of equity crowdfunding

financiers are less mandatory than those of listed companies, i.e., it is sufficient to ensure a moderate level of disclosure of information related to the financing project and the financier. A moderate disclosure system may include different disclosure requirements depending on the amount of financing and the mode of operation and may set a standard based on the amount of funding. For example, for projects with less than $1 million in financing amount, they can be exempted from reporting to the security's regulatory authorities, if the information related to the financing project is disclosed to the equity crowdfunding platform and investors, but the financier is responsible for the truthfulness and completeness of the information disclosed; for projects between $1 million and $5 million, slightly stricter disclosure standards can be set. For example, in the case of additional financing projects, the project descriptions and financial reports of the additional financiers must be reported to the security's supervisory authorities; for projects over $5 million, more stringent information disclosure standards should be set, and the amount of project financing should be further studied and proven.

In addition, different standards can be set for different types of equity crowdfunding and different disclosure obligations for public and private equity crowdfunding. However, the disclosure of information on equity crowdfunding should be enforced to a much less stringent extent than the disclosure obligations of listed companies; at the same time, it should not be set too leniently to protect the legal rights of equity crowdfunding investors. Therefore, it is necessary to establish a moderately categorized and tiered system of information disclosure obligations for equity crowdfunding so that it can serve the development of the equity crowdfunding industry and facilitate financing on the one hand and consider the legal protection of the rights of equity crowdfunding investors on the other.

6.4.2 Set reasonable threshold access for equity crowdfunding entrepreneurs

The booming growth of equity crowdfunding in China has led to some controversy over the access threshold of equity-based crowdfunding, which mainly focuses on whether equity-based crowdfunding should be strictly limited to micro, small, and medium-sized enterprises or can be expanded to ordinary enterprises. By viewing our data sample, we can see the exciting phenomenon that many of the chain brand which are already "big" and "famous", have joined in the industry and are producing strong results, which is usually much more than the investment amount that real "start-ups". The chain brands projects are more active on social media platforms with more postings about their projects, while start-ups have less posting but more 'forwards' and "likes".

The reasonable estimate of the observed phenomenon is that the established chain brands may have more existing “followers” both online and offline, for the mass who are easy to get information about the firms’ operation status, they might not have the opportunity to build direct contact with those big brands, however, with those start-ups which are less social-active, the potential investors might be more from the entrepreneurs’ known people, like friends or family, get more chance to communicate with them directly and would like to share the information on social media as help the entrepreneur to promote their start-ups projects. This might be the evidence that the threshold for equity crowdfunding financiers should not be set in a one-size-fits-all manner, but in a flexible way, with different access thresholds set according to different types of equity crowdfunding.

For private equity crowdfunding, it should not be limited to small and medium-sized enterprises, and for public equity crowdfunding, different standards should be set. When the amount of public equity crowdfunding is enormous, a higher threshold should be set for the financier, while for the smaller amount of equity crowdfunding, the threshold should be set for micro, small, and medium-sized enterprises, and the criteria for them should be based on operability. The access threshold for equity crowdfunding financiers should be based on the following considerations.

Firstly, private equity crowdfunding financiers should be extended to general enterprises. In current China, the investors in private equity crowdfunding are mostly qualified investors. The Draft for Public Comments stipulates that equity crowdfunding investors should invest no less than RMB 1 million in a single equity crowdfunding project, which means that according to China’s Securities Law, the number of investors should not exceed 200, which means that theoretically, equity crowdfunding financing can be as high as nearly RMB 2 billion. In addition, there is no maximum investment limit set in the Draft, which makes the theoretical amount of possible financing even larger. However, such large-scale financing has long exceeded the size of the small and medium-sized enterprise (SME) itself. Given that the total amount of equity crowdfunding financing in the United States, the birthplace of equity crowdfunding, is in the hundreds of millions of dollars, the Draft for Public Comments limits China’s equity crowdfunding financing to private placements.

According to its provisions, the amount of investment in a single project is set at no less than RMB 1 million, but the financing body is limited to micro, small, and medium-sized enterprises, which is self-contradictory. From the perspective of protecting the rights of equity

crowdfunding investors, it would be more beneficial to extend the scope of financing to ordinary enterprises, which have a higher failure rate in their projects. If equity crowdfunding is available to mature enterprises in general, it will be more secure for investors to obtain returns. This point has also been evidenced by our study platform "Colourful Invest" from the data collection, we can see that there are 51 of the 158 projects' investments amount over 10 million RMB, which is 32.28% of the total successful fundraising projects launched on the platform. Among these 51 projects, the project "Mehood Hotel" in Suzhou has even raised 100 million RMB as a branch of the chain hotel "Mehood" brand.

Secondly, in the case of public equity crowdfunding, different access thresholds for financiers should be set according to the funding limits. Since equity crowdfunding investors are riskier for public equity crowdfunding, different thresholds can be set depending on the amount of financing. As mentioned before, many established chain-brand companies are now involved in equity crowdfunding as well to expand their business landscape; it demonstrates that for the more considerable amount of financing, it can be extended to the more mature enterprises; for the smaller amount of financing, it can cover the start-ups or micro and small enterprises. At the same time, it is necessary to further demonstrate how to divide the amount of financing more reasonably.

Currently, there is no uniform standard for the identification of micro, small, and medium-sized enterprises or start-ups. Micro, small, and medium-sized enterprises, are relatively small enterprises in terms of personnel and assets. In addition, the criteria for identifying micro, small, and medium-sized enterprises vary from industry to industry, and there are different views on whether micro, small, and medium-sized enterprises should be defined by the time of establishment or by the amount of registered capital. According to the U.S. JOBS Act, a financier should raise up to $5 million per year, so it is suggested that a public equity crowdfunding in China could set a limit of RMB 5 million (Yang & Liu, 2015). Under this premise, a single financier who raises less than RMB 5 million per year through the equity crowdfunding platform can be a micro, small and medium-sized enterprise or a typical enterprise; while those who raise more than RMB 5 million can only be a mature enterprise that has been established for more than two years. Such a division not only facilitates the financing of equity crowdfunding enterprises but also promotes the protection of equity crowdfunding investors.

6.4.3 Enhance project management by Equity-based Crowdfunding platforms

Currently, the project management obligations for equity-based crowdfunding platforms have still been no legal basis in China. Furthermore, the Exposure Draft also contains no mandatory provision on equity-based crowdfunding in this respect. In addition, equity-based crowdfunding enterprises are not listed companies, and therefore relevant conditions on the subsequent management over listed companies in the Securities Law cannot apply to those platforms. Due to the lack of relevant laws and regulations and in combination with the consideration for management costs, most platforms have not really established an effective post-investment management system for equity-based crowdfunding yet. Platforms with post-investment management systems only account for a small proportion. Although equity-based crowdfunding investors have the right to supervise companies as per the Company Law of China, practically, equity-based crowdfunding shareholders are featured by their large number and small amount. As a result, those scattered investors have little access to critical information concerning the performance of companies they have invested in. Due to their different investment amount, the willingness of investors to acquire relevant information also varies. Therefore, obligations for improving the post-investment management system, acting as supervisors and safeguarding investors' rights will place those platforms in an advantageous place to facilitate the standardized operation of financers and the protection of investors' rights.

The post-investment management by those platforms serves as an effective guarantee to determine if investors can receive their rights and interests. The management mainly includes the continuous supervision over operation and management of financiers' companies and an effective utilization monitoring of investors' funds. Such a practice is aimed at keeping equity-based crowdfunding from frauds like P2P platforms, Ezubao and Fanya, and preventing financiers or financing platforms from absconding with funds. Once there is a credit event or the operator of an equity-based crowdfunding platform absconds, equity-based crowdfunding investors will bear huge losses (Zhong & Wang, 2015). Therefore, a complete post-investment management mechanism for such a platform not only is critical to protect equity-based crowdfunding investors' rights and interests but also indirectly facilitates the healthy development of the equity-based crowdfunding industry. Otherwise, once there is a lack of post-investment management in those platforms, the risk of a failed equity-based crowdfunding project and of a vanished return will be intensified invisibly.

6.4.4 Define responsibilities of Equity-based Crowdfunding platforms

Relevant legislation shall draw a clear line between the legal attributes of equity-based crowdfunding and the illegal fund-raising and create a healthy investment environment for equity-based crowdfunding investors to mitigate legal risks due to a lack of laws or unclear and unsound regulations. Besides, the management over equity-based crowdfunding platforms should be tightened, and the rights, obligations and responsibilities of those platforms should be articulated. The industrial standards and norms should be established to regulate the business activities of those platforms and to reduce their violations. A sound risk prevention and control system should be set up to provide a sound competitive environment for the equity-based crowdfunding market (H. Wang, 2015). If subject to no consistent business norms, equity-based crowdfunding platforms may engage in business activities beyond their own capabilities and professional standards out of various purposes (M. Liu, 2015). Therefore, those platforms should scrupulously abide by their duties, prevent frauds, and do a great job in safeguarding the rights of equity-based crowdfunding investors.

(1) Information disclosure obligations of Equity-based Crowdfunding platforms

Equity-based crowdfunding platforms shall conduct meticulous measures to audit and restrict both supply and demand ends. They shall perform the obligation to investigate the identity of financiers and the project authenticity and publish not highly risky or false projects (Zero One Research Institute, 2015). The information disclosure obligation committed by those platforms serves as a key method to prevent fraud and safeguard investment rights in equity-based crowdfunding transactions. An effective information disclosure obligation not only enables investors to decide whether to invest or not but also allow them to terminate certain behaviours in time and safeguard their own rights once there are relevant behaviours that impact investors' rights after their investment. Therefore, the importance of information disclosure obligation taken by those platforms is self-evident.

The information disclosure obligations taken by equity-based crowdfunding platforms vary among countries. Equity-based crowdfunding platforms in the US honour the regulations of the U.S. Securities and Exchange Commission in terms of information disclosure obligations and are committed to preventing transaction fraud. The specific requirements imposed on them go as follows. Firstly, platforms shall know the personal backgrounds of the senior executives, the directors and the shareholders with 20% of negotiable shares of each securities issuing agency, and the historical record of law enforcement and supervision concerning securities. Secondly, platforms shall provide relevant information to the SEC and potential investors

within 21 days prior to the sale of securities or such other period as may be prescribed by the SEC. Equity-based crowdfunding platforms in Italy, for example, are required to disclose to investors the operation and management as well as the investment and financing situations of investee enterprises (Fan, 2015).

(2) Risk disclosure and prompt to investors

Risk notification obligation derives from the possible high risks involved in equity investments. Adequate risk disclosure obligations shall be fulfilled for investors according to stipulations of JOBS Act, which include: Platforms shall check the investor information as per relevant rules of the Securities and Exchange Commission, make sure that investors understand potential investment risks, and be capable of bearing losses accordingly; platforms shall prove, through answering relevant questions, that investors have understood the general risk levels of start-ups, emerging companies and small securities issuers in which they invest, the risks of investments that cannot be cashed immediately, and other relevant matters that they shall know according to relevant rules of Securities and Exchange Commission.

Most equity-based crowdfunding enterprises are start-ups with a very high failure rate in investment. Therefore, the law shall stipulate those platforms to commit special risk warning obligations. The Internet-based equity-based crowdfunding and the information asymmetry during the process may cause blind investment or copycat phenomenon among equity-based crowdfunding investors. Equity-based crowdfunding investment and financing intermediary platforms shall perform the fundamental obligation of investment risk warning for their investors. Platforms shall clearly express the risks of equity-based crowdfunding and the investment attributes of such equity investment at a conspicuous place on their websites and the project invested by investors. Platforms should also warn investors by articulating those risks that always coexist with investment behaviours and that it is normal to fail to obtain either expected returns or any returns. If one platform intentionally conceals risks or promises a certain amount of investment returns to attract investors, it will be imposed upon certain legal liabilities. Only in this way can investors be better safeguarded.

(3) Prohibited actions and default responsibilities of Equity-based Crowdfunding platforms

Specific prohibited actions imposed on equity-based crowdfunding platforms are conducive to regulating their development to keep them from sacrificing their investors' rights for their own interests. Therefore, the Exposure Draft has stipulated the prohibited actions against equity-based crowdfunding investors. If a platform violates an equity-based crowdfunding contract,

or if it conceals or facilitates a transaction even though it clearly knows the financer's frauds or other illegal conducts, that platform shall bear the corresponding legal responsibility for losses of their equity-based crowdfunding investor. When the platform violates legal or contractual obligations, it shall bear adverse consequences accordingly. The legal protection of equity-based crowdfunding investors' rights and interests can be enhanced through normalizing the civil liability, administrative responsibility, and criminal accountability of such platforms.

6.4.5 Supervision of Equity-based Crowdfunding platforms in China

At present, China does not have an established system of legal supervision for equity-based crowdfunding platforms and relies on the self-discipline of investees and the procedural supervision by equity-based crowdfunding platforms. The lack of supporting laws and regulations results in inadequate protection for investors. Therefore, it has become the top priority for the supervision over equity-based crowdfunding platforms in China about how to draw lessons from overseas experience in the platform supervision. The objective is to build a system suitable for developing the local platforms and to form a normalized system to establish the industry in a healthy way and protect investors' rights.

In addition to its theoretical basis, supervision over equity-based crowdfunding platforms is also an inevitable requirement of social practice. Equity-based crowdfunding serves as a breakthrough and innovation of traditional financing mode, which challenges the financing mode of the existing securities market. As China puts forward the idea of "mass entrepreneurship and innovation", the financing mode and the investor right protection concerning equity-based crowdfunding have gained unprecedented attention. With the establishment of the preliminary supervision thought of "encouraging innovation, preventing risks, seeking benefits, circumventing risks, and developing healthily" by China Securities Regulatory Commission, the supervision over equity-based crowdfunding platforms has been put in place and become a practical requirement for the development of crowdfunding industry.

Supervision of equity-based crowdfunding platforms is the requirement for a multi-tier capital market. Equity-based crowdfunding is an innovative financing method for small- and medium-sized enterprises (SMEs). Financial products and services offered by such platforms are public in nature. Therefore, facilitating their benign development can increase both the contribution of equity-based crowdfunding to social economy and the welfare of entire society. Secondly, supervision over those platforms is the innate requirement of investor right protection. Governmental supervision can maintain the confidence of crowdfunding investors, eradicate

negative impacts in the market, mitigate information asymmetry, and curb moral hazards and adverse selection. To bring in supervision measures can normalize code of conduct of all parties and strengthen the credit basis for investors to enter the equity-based crowdfunding sector so that they no longer must worry about their investments being reduced to illegal fund-raising.

With supervision of these platforms goes an inevitable trend to regulate the development of entire industry. Equity-based crowdfunding industry is highly risky. Its characteristics of Internet finance result in a great many of participants and certain diffusible risks. Therefore, it is necessary to enhance measures against financial risks by virtue of governmental supervision. Equity-based crowdfunding can develop in a benign direction only under the normalized supervision and guidance from the government, and thus bring vital and innovative power to the development of whole industry.

In short, with the establishment of *the Administration Methods for Private Equity-based Crowdfunding (Exposure Draft)* and the clarification of supervisory responsibilities, China Securities Regulatory Commission (CSRC) needs to accelerate the promulgation of administration methods to supervise platforms seeking equity-based crowdfunding. The consensus reached from a general review over legal models for equity-based crowdfunding investor right protection across the world is that equity-based crowdfunding is a new way of financing. Therefore, rights of such investors shall be safeguarded and platforms providing such products shall be brought under supervision. The US has enhanced its supervision of those platforms by establishing rules for equity-based crowdfunding supervised by the US. Securities and Exchange Commission to protect legal rights of equity-based crowdfunding investors.

(1) Legalize the equity crowdfunding platforms

The way to determine the essence of an equity-based crowdfunding platform should take various factors into account. The role and the status of those platforms vary upon perspectives, reform the perspective of investees, those platforms play the role of selling shares of financers to the public, which is like securities underwriters. Some platforms may sell part of investees' shares to investors and then charge a certain proportion of fees by virtue of their networks, channels and advantages, and those fees are like commissions in securities commission business; platforms at this point are identical to securities underwriters. From the perspective of investors, those platforms accept the commission from investors and help them open personal fund accounts and buy certain shares of the project to be invested. At this moment, the role of those platforms is like that of securities brokers. From the perspective of investees,

those platforms select qualified investees through due diligence, sell those financers' shares online via themselves, and allow authenticated investors to purchase those shares. In this case, the essence of those platforms is like that of "exchanges". That is why positions on those platforms vary among countries (Fan, 2015).

In addition, those platforms also undertake Internet-based financial services. Therefore, China should adopt specific legislation to legalize those platforms by drawing lessons from and innovating upon the user experience of the UK and the US, so that platforms will no longer be intimidated by their own development. Identifying those platforms' statuses and confirming their legal essence accurately is good for them as it allows them to develop in a legal way that is also conducive to protecting their investors' rights. Therefore, China should leave room for developing equity-based crowdfunding during the process of revising the Securities Law. With the development of company registration system reform, equity-based crowdfunding platforms should also be incorporated into the registration system and the filing exemption system. Simultaneously, when formulating the new supervision rules on equity-based crowdfunding, the policy should clearly define the essence and status of those platforms to adapt to the development of the equity-based crowdfunding industry and to protect their investors' rights.

(2) Select the mode of "stringent access and moderate supervision"

The US JOBS Act normalizes the development of equity-based crowdfunding platforms from the perspective of the fundamental and the legitimacy of supervision and lays a legitimate and legal foundation for safeguarding the rights of equity-based crowdfunding investors. Because it is difficult for equity-based crowdfunding investors to fully enjoy their natural rights of liberty and equality in a spontaneous capital market, the core issue considering equity-based crowdfunding supervision is how to safeguard the liberty and the equal rights of equity-based crowdfunding investors, so that the legislation to safeguard those investors' rights can be truly fair and just. If those platforms can provide complete, authentic and unbiased information disclosure, equity-based crowdfunding investors will not be in a disadvantageous position for information, and their equal rights will be complete. Equity-based crowdfunding investment is feature by its high expertise and a lack of professionalism will expose investors to larger legal risks. Therefore, those platforms should not only ensure that the free will of investors is real and strong-minded but also provide the risk warning and the investor education for those equity-based crowdfunding investors. That perfects the thought for supervision over those

platforms, namely a comprehensive requirement on the information disclosure and the risk warning guided by principles of liberty and equality.

To safeguard the property security of equity-based crowdfunding investors is one of their key and eager objectives for the international legislation on consumer protection and the major organizations for consumer protection. Equity-based crowdfunding commodities, the aggregation of information, are of the innate intangibility and complexity, and somehow the uncertainty for consideration acquisition. Therefore, investors must have the corresponding capacity to bear risks when selecting equity-based crowdfunding products. In transaction practice, the infringement of investors' property security is generally due to risks from crowd-funding platforms — namely providers of equity-based crowdfunding transaction services — rather than the innate risks of the market. For example, the misleading publicity or the interest-enticing investment proposals for equity-based crowdfunding projects by some platforms will all result in an infringement of property rights of equity-based crowdfunding investors. Therefore, platforms should be brought under supervision to form a protection system for those investors' rights, and to regulate actions that may infringe upon their property security.

The choice of supervision mode for equity-based crowdfunding platforms has always been a considerable debate in both theoretical and practical circles. Yang and Wen (2015) hold that the equity-based crowdfunding industry in China is still in its early stage of development and that the principle of "low threshold and stringent supervision" should be imposed upon those platforms. Lowering the market entry threshold of those platforms is conducive to bringing various innovative enterprises into this industry and facilitating the market competition in this industry. In addition, after entering the market, those platforms should be under stringent supervision to protect their investors' rights. A strict entry threshold is inappropriate because it will exclude many platforms aspiring to equity-based crowdfunding.

There is an opposite opinion that as the equity-based crowdfunding industry is in its early stage of development, it is also necessary to set high access thresholds to normalize this market and to realize benign development. After excellent and competent platforms enter this market, they should be under relaxed supervision to promote the formation of an equity-based crowdfunding market, to facilitate the financing of SMEs, to accelerate innovation and development of the entire society, and to drive SMEs to create more employment opportunities. An extremely low threshold will decrease the quality of those platforms, which will not only affect the benign development of this industry but also undermine the advantages to protect investors' rights.

The mode of relaxing the supervision over a group of excellent platforms after allowing them to enter the equity-based crowdfunding industry is conducive to facilitating the development of this industry in China and the formation of such a market.

The mode and the intensity of equity-based crowdfunding supervision can evidently vary among countries. The financial situation and the cultural background of China should be taken into a specific account for how to balance financial innovation and investor protection. In terms of Chinese equity-based crowdfunding platforms still in their initial stage, it is indeed difficult to control the supervision intensity (Yang & Wen, 2015). It is suggested herein that the method of "stringent entry and moderate supervision" should be imposed on those platforms in China. The reason for stringent market access of equity-based crowdfunding platforms is that equity-based crowdfunding business is highly professional and requires expertise, experience and funding support. An excessively low threshold will disrupt the equity-based crowdfunding market and affect the normalized development of this industry. Furthermore, those platforms also play a role in Internet finance, which are like securities platforms in essence. Therefore, they require support from a more significant amount of funds and stronger expertise. The reason for China to choose the mode of "moderate supervision" is that equity-based crowdfunding just sees a short development period, and we need to encourage those platforms to innovate and develop.

There are also high risks and uncertainties with the Internet for equity-based crowdfunding and the various investment products. Therefore, external supervision, supplemented by the power of industry associations can enhance the efficiency and flexibility of supervision (Yang, 2014). In terms of industries with strong professionalism, such as music, and high and new technology development, industry associations should provide professional judgments and effective protection for equity-based crowdfunding investors in time. Furthermore, the experience from Japan is also of the reference value. Industry associations can provide professional training for relevant practitioners of equity-based crowdfunding platforms make sure that platform managers have professional auditing abilities through either qualification examination or research and training to enhance the protection for rights of equity-based crowdfunding investors.

(3) Combine "formal examination with substantive examination" for equity-based crowdfunding platforms

As an agency, an equity-based crowdfunding platform can provide both investor end and investee end of equity-based crowdfunding with the following services: Releasing information, aligning supplies with demands, assisting fund allocation, those platforms ought to shoulder important responsibilities. While playing an intermediary role, they control important information during the process of investment and financing and take the responsibility to audit both investors and investees. The legislation has endowed those platforms with legal rights, obligations and responsibilities. It has clearly regulated the protection for investors' personal information, the pre-check of information concerning both parties, the post-supervision over equity-based crowdfunding projects, the risk warning, and the investor education.

There is some debate within theoretical and practical circles over what investigation responsibilities should be imposed on equity-based crowdfunding platforms. The debate also involves whether to take a "formal examination" or "substantive examination" in terms of the examination form. When it comes to the selection of examination forms, their consequences vary upon examination methods, which will have a significant influence on risk prevention and control. With the rise of Internet-based finance and the trend towards more convenient micro-finance, those platforms should also provide investors and investees with more timely, convenient, and safer transaction channels.

Therefore, if those platforms just carry out "formal examination" on investors and investees, the investment risks in equity-based crowdfunding will be intensified, and the safety of transaction funds will be compromised. If only the "substantive examination" is adopted, more responsibilities will be imposed on those platforms, thus aggravating the burden upon both investees and platforms and the complexity of financing. Therefore, the examination responsibility for those platforms becomes a process to weigh advantages and disadvantages. It is suggested herein a flexible hierarchical approach that combines "formal examination with the substantive examination". For example, the specific mode for formal examination and substantive examination can be established based on the investment and financing amount. When the financing amount is equal to or more than RMB 5 million yuan, investees should be subject to a substantial examination for the authenticity of both its financing eligibility and project; as for a financing amount below this figure, a formal assessment can be adopted, and investees in this case just need to submit relevant documents. The investigation of investors

can also be conducted in the same way, to adopt different examination methods accordingly, and to take into consideration of efficiency, safety and protection of investors' rights.

6.5 Summary and conclusion

The regulation of equity-based crowdfunding platforms is the first problem to be tackled to protect the rights of such investors. For equity-based crowdfunding platforms in China, specific market access standards shall be established first so that eligible platforms can enter this market. After entering this market, those platforms should be subject to clear definitions concerning their essence, functions, rights, obligations and legal responsibilities. Finally, necessary and appropriate supervision should be conducted over those platforms to fully protect their investors' rights.

Against the backdrop of the current development of Internet finance, it has become a top priority for China to create a supervision system that not only conforms to the development of equity-based crowdfunding platforms in China but also facilitates the protection of investors' rights. Some countries have taken the lead in rolling out different supervisory regulations to adapt to their own national conditions. Lessons on the legislative and the practical experience from other countries can effectively drive the construction and development of supervision systems for equity-based crowdfunding platforms in China. With reference to the experience in overseas equity-based crowdfunding platform supervision and in combination with critical issues arising from the supervision over those platforms in China, reasonable countermeasures can be proposed for the supervision of equity-based crowdfunding platforms in China.

CHAPTER 7: CONCLUSION, IMPLICATIONS AND FUTURE RESEARCH

7.1 Introduction

This chapter is aimed to provide a summary of all the previous chapters, demonstrate the implications of the study, and indicate the possible research direction for future work. The chapter is divided into four sections: Section 7.2 summarizes the main content and key points of each chapter; Section 7.3 concludes the study's significance on both theory and practice, and the implication of the policy; Section 7.4 lists up the study's key findings to answer the research question and the results of the test of the hypotheses; Section 7.5 states the limitations of the study; while Section 7.6 sets out the structure for future research.

7.2 Summary of chapters

7.2.1 Chapter 1: Research context, aims and significance of research

Since the emergence of crowdfunding in the Web2.0 era, the discussion of the new fundraising tool for SMEs has been widely reported from multiple perspectives. Over the last decade, with the increasing use of social media in crowdfunding campaigns, scholars have started to pay attention to the conjunction of social media and crowdfunding platforms. However, so far, there is a less empirical study on the relationship between social media and the performance of Equity Crowdfunding. This thesis is empirical research that investigates the moderating effect of social media on the performance of equity crowdfunding campaigns. The study examines the existing signals and recognizes new signals that indicate the success of equity crowdfunding. By testing the signals, we establish an empirical model to analyse the moderating effect of social media on equity crowdfunding performance.

The research is in needed to fill the evident theory gap of the moderating effect of social media (J. Block et al., 2018; Borst et al., 2018) and the signalling effect of venture quality (Davies & Giovannetti, 2018; Hoegen, Steininger, & Veit, 2018) on equity crowdfunding performance, through an empirical test to explore the influences that Social Media activities impact on the investors' decisions and how can these key elements impact Crowdfunding campaigns' performance. The purpose of the study is to establish an improved understanding of the factors affecting the current Chinese equity crowdfunding industry to inform and guide future legislative processes on the industry in China. The study is an original contribution being the very first study to focus on the equity crowdfunding platform's social media activity as one of the observation objects. The study identifies new signals that have not been previously noted

by other studies in the discipline but specific to the Chinese equity crowdfunding industry and compares these differences with the mature western equity crowdfunding market.

An empirical model was established to analyse the data collected from the leading Chinese equity crowdfunding platform "Colourful Invest" by analysing the result of the empirical model, the positive impact of social capital and human capital have been proved, and other new signals have been recognized. The thesis provides specific recommendations for the policymakers to regulate the new-emerging equity crowdfunding industry in present China, which enriches the theoretical debates of the development of the equity crowdfunding industry and presents practical suggestions to guide the supervision and regulation of the equity crowdfunding industry.

7.2.2 Chapter 2: Literature review

The literature review outlines the theoretical integration since the emergence of crowdfunding, summarises the previous research on equity crowdfunding, reviews the implication of signalling theory and overviews the development of equity crowdfunding in an international context and domestically in China. It outlines a systematic review of the theories as the apply in terms of social media's impact on types of crowdfunding.

Crowdfunding via the internet is a relatively new fund-raising tool that brings together people seeking financial support from public individuals and groups to launch new firms. Funders contribute a small amount to each venture. Various empirical studies have been conducted to investigate the core determinants of the success of crowdfunding in SMEs, which are the cornerstone of the modern economy. Equity crowdfunding mainly draws the attention from both the industry and academics. The previous crowdfunding research has focused on the determinants of successful crowdfunding on the investors' motivation through networks and social capital perspectives. Information asymmetry has been identified as the critical barrier of the communication between investors, entrepreneurs and the equity crowdfunding platforms.

To minimise the information asymmetry during the equity crowdfunding process, signalling theory has been introduced to help examine the signals that indicate success of equity crowdfunding. Because of equity crowdfunding's internet-based characteristic, combined with the equity crowdfunding investors' unsophisticated characteristic, social media becomes the only pathway for the investors, entrepreneurs and platforms to communicate with each other. How to take advantage of the social media activities to reach a better result of the equity crowdfunding campaigns becomes the problem lies right in front of the financiers and

platforms while the investors need to consider how to judge the campaigns that are worthy of putting their money in through their social media activities.

The legal dilemma of equity crowdfunding in current China, however, obstructs equity crowdfunding's use of social media and its own development. While there is a lack of statutory regulations of equity crowdfunding, certain risks exist under the current legal environment of China, thus the social media platforms present a restricted attitude when dealing with equity crowdfunding promotions. For this reason, specific laws and regulations are needed for the sustainable development of equity crowdfunding in China. There are specific existing references of the regulating and supervision of equity crowdfunding in some other countries. We review the representative acts and legal research in the US and Europe to build up the theoretical basis for the recommendations of regulations in China.

7.2.3 Chapter3: Conceptual framework and research question

To test the moderating effect of social media on equity crowdfunding performance, we focus on the examination of how social media impact the signals on the measurements of equity crowdfunding success. Based on the venture quality measurements established by Baum and Silverman (2004), we take the amounts raised in campaigns, the speed of completion, the extent of completion and the annual yield rates as the measurements of the equity crowdfunding performance, as well as follow the research structure of Ahlers et al. (2015), assume the social capital, human capital and intellectual capital as signals that may indicate the success of equity crowdfunding. The research question identified is: Does social media have impacts on the investors' decisions and the performance of crowdfunding projects?

7.2.4 Chapter 4: Research design and methodology

To investigate the research question, the study takes a quantitative research methodology and develops the empirical model to test the hypotheses. The study reviewed 158 projects displayed on the Chinese leading equity crowdfunding platform 'Colourful Invest' from 26th Feb 2016 to 30th Oct 2020, collected the projects' information of fundraising amount, speed, completion extent and annual yield rate, as well as information about the entrepreneur, such as their experience, business education and any industry-admired award. Some other information displayed on the platform has also been collected as additional controls, such as the board member, exit structure and being a member of chain brands. As well as the projects' postings on the social media platforms of Weibo and WeChat posted by both the entrepreneurs and 'Colourful Invest' platform.

The moderating variable has been taken as the total number of social media activity of the project on both Weibo and WeChat official account. This includes: all the Weibo posts by both the entrepreneur/ official venture account of the project and the 'Colourful Invest' platform official account about the project before fundraising finished, and all 'likes', 'forward', comments and views of those postings. It also includes the articles posted on both the project's official WeChat account and the 'Colourful Invest' platform official WeChat account regarding the project before the fundraising finished, and all the 'likes', comments, 'viewing' and reads of the articles. The data has been processed using SPSS through a multiple linear regression (MLR) model to certify the function of the signals raised in Hypothesis1. The multiple linear regression model tests the data, the performance of equity crowdfunding campaigns is measured as below:

$$y=\beta_0+ \beta_1.x_1+ \beta_2.x_2+ \beta_3.x_3 + (\ldots) + \beta_n. x_n +\varepsilon$$

Where β_0 is the constant term, $x_1, x_2, x_3 \ldots x_n$ are the independent variables and additional controls, ε is the notation for deviation, y is the dependent variable to measure the performance of equity crowdfunding campaigns.

When investigate the Hypothesis2 of the moderating effect of social media impacts on equity crowdfunding performance, we pre-process the variables to obtain the product term of social media figure and entrepreneurs' business education, social media figure and entrepreneurs' entrepreneurship experience, social media figure and the industry-admired award granted of the equity crowdfunding projects, the model of MLR examines the moderating effect is:

$$y=\beta_0+ \beta_1.x_1+ \beta_2..M+ \beta_3. x_1 .M + \beta_4.x_2 + \beta_5.x_3 +..+\beta_n.x_{n+2}\varepsilon$$

Where β_0 is the constant term, $x_1, x_2, x_3 \ldots x_n$ are the independent variables and additional controls, ε is the notation for deviation, y is the dependent variable to measure the performance of equity crowdfunding campaign, M is the moderate variable which is the pre-processed figure indicates the project's social media activity on Weibo and WeChat.

7.2.5 Chapter5: Result and analysis

Before analysing the MLR model statistic result, we compare the differences of the data samples which are active and inactive on social media; it is surprised to see that the projects having promotions on social media platforms do not take apparent advantages on the fundraising performance, to some standard, the social media active projects are even in an inferior position.

In the test of Hypothesis1, the correlations between the social capital, human capital, and the result of the projects have been confirmed by the MLR model, which examines the effect of the signals on the performance of equity crowdfunding. The activity on social media also plays a statistically significant role in the result of both the speed and the annual yield rate of the equity crowdfunding projects, which partially supports our Hypothesis 2 (a).

The moderating variable's effect on the performance of equity crowdfunding has also been highlighted in the result. The result proves that the activity on social media has a particular moderating effect on the project's social capital and human capital, but no evidence indicates any impact on intellectual capital, which partially supports Hypothesis 2 (b). 2 models of the 4 tested show significance on suitably indicate the social media's moderating effect on the equity crowdfunding performance:

$$\text{Funding Speed} = \beta_0 + \beta_1 . \text{Experience} + \beta_2 .. \text{Social media} + \beta_3 . \text{Experience.Social media} + \varepsilon$$

and

$$\text{Annual Yield Rate} = \beta_0 + \beta_1 . \text{Education} + \beta_2 .. \text{Social media} + \beta_3 . \text{Education.Social media} + \varepsilon$$

Additionally, some new signals to be an influential determinant of the success of equity crowdfunding has been identified: being a member of a chain brand has been found significant to the result of funding amount and speed; having a window phase in the exit mechanism is also substantial to the rate of completion; the number of a board member may not be an appropriate indicator of the human capital, but still has an effect on the annual yield rate of the equity crowdfunding projects. This might be another evidence that the determinants of the Chinese equity crowdfunding market are different from the general factors recognized by the previous researchers in other countries.

7.2.6 Chapter 6: Discussions and recommendations

The results presented in Chapter 5 partially answered the research question by confirming social media's positive impact on equity crowdfunding performance and the moderating effect on signals that indicate the success of equity crowdfunding. New findings have been observed that the affiliation of big chain brands and flexible exit structure also statistically evident the performance of equity crowdfunding. It discloses the current development dilemma that due to the lack of specific laws and regulations on equity crowdfunding in China, the social media platform must take a highly restricted altitude on equity crowdfunding and entrepreneurs'

activities on the social media platform, which obstacle the pathway of communication between investors and the other two parties.

The risk of illegal fundraising, unauthorized issuance of shares and the confidential commercial risk make the equity crowdfunding entrepreneurs and platforms cautious and meticulous of the behaviour on both equity crowdfunding platform and social media platforms, also confused the unsophisticated equity crowdfunding investors worry about their fund security. Although there is the Opinion Draft as the temporary regulation that guides the activities of equity crowdfunding, it is much more too brief given the current rapid expansion of equity crowdfunding in China. There are also certain limitations in the Opinion Draft in terms of the qualification standards of investors, the access conditions for equity crowdfunding platforms, and the prohibition of platforms providing transfer services of negotiable securities.

Therefore, there are specific requirements about the development of the equity crowdfunding industry and the healthy growth of the financial market in China. These include the requirements for financiers under the equity crowdfunding model, qualification requirements for equity crowdfunding financiers, requirements for financiers' access threshold, requirements on the issuance behaviour of equity crowdfunding financing and equity crowdfunding financing limits. In response to the above requirements by the current Chinese economic society, we have specific recommendations for the future legislation of equity crowdfunding based on the research results. These include the need to: clarify the statutory disclosure obligations of financiers, enhance the project management by equity-based crowdfunding platforms, clearly define the responsibilities of equity-based crowdfunding platforms and complete the supervision arrangement for equity-based crowdfunding platforms in China.

7.3 Significances and implications

The knowledge gained through this research about how social media impacts the performance of equity crowdfunding and the moderating effect of signals on the success of equity crowdfunding have important implications for both theory and practice.

The study provides valuable insight into the current state and practice of equity crowdfunding development in China, and it fills in a theoretical gap noted in relation to limited research on social media's effect on equity crowdfunding in a signalling perspective. The study also enriches the theoretical debate related to equity crowdfunding industry in China today via establishing an evidence base and an empirical test to analyse the moderating effect of social media on performance of equity-based crowdfunding. This includes establishing models to

confirm the signalling effect of social media to equity crowdfunding and statistically evident the moderating impact of social media in the dynamics of equity crowdfunding campaigns; investigating the rationality of currently recognized signals, identifying the unobserved signals, and providing recommendations on the future legislation of equity crowdfunding in China.

The result offer theoretical support of how laws and regulations could be developed to protect equity crowdfunding for both investors and entrepreneurs. The study also gives professional advice in terms of the legislation of crowdfunding in internet law. This will help the government policymakers to better guide the use of multiple linear regression analysis for social media in the financial sector.

The study highlights the role of social media as a third party in the process of equity crowdfunding. It benefits both investors, projectors and platform providers: it gives investors a deep insight into the industry and helps them to choose the more successful-likely projects; also, the projectors can use the research results to guide their communication with investors to increase the campaigns' success possibility; as well as the platforms can take advantage of the convenience of the investors' information to better operation. Moreover, it gives professional advice to equity-crowdfunding projectors and equity-crowdfunding platforms on how to take advantage of the convenience of the investors' information to better process, fills in a standardized and rationalized source into the current Internet environment, which will help the government to guide the user of social media in the financial area, minimum the risks while increasing its performances.

7.4 Conclusions

Table 31 summarised the results to our research questions. In conclusion, our research has the following major findings:

i. Social capital has a positive impact on the equity crowdfunding success which confirms with the Signalling Theory(Ahlers et al., 2015; Moss et al., 2015) and Social Capital Theory (Colombo et al., 2015) that social capital, measured by the entrepreneur's business experience, the equity crowdfunding projects with higher social capital are more likely to reach their goal with faster speed. As the preliminary results indicate that same propositions with the research structure based on (Ahlers et al., 2015), the multi-variable model with further investigation of the projectors' entrepreneurship experience indicates that the social capital is also significant to the equity crowdfunding's funding speed under the social media's

moderation. The reason could be that with experience in entrepreneurship before, the projectors are more likely to restrain the opportunistic behaviour of through an innate trust mechanism thus reduce the risk of funding behaviour, which influences the investors' decisions.

ii. Human capital has a positive impact on the crowdfunding success which confirms the Signalling Theory. This may because the investors will treat the education level as a signal for cognition with certainty that the business education will enhance business skills pertinent to the management and operation.

iii. Intellectual capital measured by the industry admired award is not statistically significant. This may because the investors do not understand the value of award or because there is little connection between having an award and investors' confident of business prospects. This is an area merits future research.

iv. Social media activity plays a positive role on the equity crowdfunding campaign's completion speed and annual yield rate, which also reflects the same conclusion with prior research in Net-work Theory (M. F. Lin et al., 2013). This may indicate that under current China social media platforms are still the dominant channels for equity crowdfunding projectors and backers to communicate with each other, the investor cohorts are also social media users in China due to their unsophisticated characteristic in financing and investment, funding behaviour is more preferable to happen online than offline to these venture groups.

v. The study only finds partial evidence that social media activity has moderate effect of the entrepreneur's experience on the project's completion speed, and the entrepreneur's business education experience on the project's annual yield rate and. This may because the project funding amount and funding completion extent are affected by other factors which were not captured in this study, for example "the leading investor"(Y. Jiang et al., 2018; Y. Li et al., 2021). This will merit future research.

Table 31 Summary of study results

Hypothesis:	Test result	Explanation
Hypothesis 1 (H1) - The project with higher venture quality will achieve better performance on the equity crowdfunding result, which include:	Partially supported	The signalling impact of social capital and human capital has been confirmed
H1(a): The venture quality characterized by social capital will positively impact the equity crowdfunding success	Supported	Entrepreneur's entrepreneurship experience has a positive impact on the equity crowdfunding's funding speed when moderates by social media activity
H1 (b): The venture quality characterized by human capital will positively impact the equity crowdfunding success	Supported	Entrepreneur's business education has a positive impact on the equity crowdfunding funding speed
H1(c): The venture quality characterized by intellectual capital will positively impact the equity crowdfunding success	Not supported	Star-up's holding of an industry-admired award is not significant to the equity crowdfunding results
Hypothesis 2 (H2) - Activity on social media has a moderating impact on the performance of equity crowdfunding, which include:	Partially supported	Promotion activity by equity crowdfunding entrepreneur and platform on social media platform moderates the effect of delivering signals of social capital and human capital
H2(a): The activity by equity crowdfunding platform and/or projector on social media positively impacts the success of equity crowdfunding.	Supported	Social media activity plays a positive role on the equity crowdfunding campaign's completion speed and annual yield rate
H2(b): The activity by equity crowdfunding platform and/or projector on social media moderates the positive impact of social capital, human capital, and intellectual capital on the success of equity crowdfunding.	Partially supported	Social media activity has moderate effect on the project's completion speed of the entrepreneur's entrepreneurship experience, and the project's annual yield rate of the entrepreneur's business education experience

7.5 Limitations of the study

A limitation of this study is the absence of longitudinal data. As the data collected from the 'Colourful Invest' starts from late 2018 until October 2020, the number of projects that meet the selection criteria is much less than expected locks in this time, so we include all the successfully exited projects since the establishment of the platform from 2016 to enrich the data sample. Thus, we need to use the existing data, which is not that precise in real-time data, as the entrepreneurship information displayed on the equity crowdfunding platform and the postings on social media platforms might have been changed during the elapsed time.

Another limitation regards to the research sample is the data collected from one single platform, which limited the comprehensiveness of the research, although we expand the period of data collection, the sample of 158 data campaigns is still relatively small for quantitative research; for a better understanding of the newly emerging phenomenon, a larger size of data sample may result in more detailed and more profound observation of the equity crowdfunding industry. To investigate a social science topic, a mixed methods approach might be the ideal research methodology to cover both the statistical evidence and qualitative knowledge. This research only took the quantitative method to investigate the research question. A qualitative investigation of data collected from social media, particularly since the response rate was relatively low, would be added to considerably to the effectiveness of this study in the future.

7.6 Future research

In research specific light of the above contextual factors, this study performs an in-depth research and analysis exploring the legal nature of equity crowdfunding in China. It presents suggestions regarding the regulations of equity crowdfunding to supervise the platform and financiers. As there are still specific questions that have not been answered, in the future, the work that needs to pay attention to can be defined as below:

- Is the information sharing behaviours of entrepreneurs on social media the same or different between the entrepreneurs and equity crowdfunding platforms?
- Do different information sharing behaviours have other effects on improving financing performance? Why do they differ?
- Is the signal sent by entrepreneurs or equity crowdfunding platform more acceptable to investors? What are the determinants for the investor's choice?
- Is the impact of lead investor's information-sharing behaviour on social media platform more easily to trigger Herd Effect, across the different social networking stages of the entrepreneurial process? How does this impact on the equity crowdfunding performance, from which aspects of measurements? Can qualitative analysis include?

7.7 Summary

This Chapter provides a summary of the whole thesis and highlights the research findings to the research questions. It acknowledges the limitations of the study and explored the options for future research.

As noted earlier, SMEs are the backbone of an economy and the rapid growth in the number of small and medium enterprises has been accompanied by a growing demand for funds. The limiting factors for most SMEs is that they do not have a credit history or the capacity to pay

prohibitive interests that preclude them from accessing conventional banking and finance services (O'Toole et al., 2015). As well, the 2008 world financial crisis has seen venture capital decrease significantly. Thus, start-ups have had great difficulty getting access to financial support, especially via open sources online. At the same time, investors with small investment capacity represent an opportunity during early-stage investment activities. Online crowdfunding from the public via the internet presents an alternate approach for SMEs and start-ups to solve their financial plight. Such forms of fundraising are presently however constrained for start-ups, but their situation can be improved by promptly taken the opportunity of the new-emerging fundraising tool through sending the right signals to attract more potential investors and make the utmost of promotion activity on social media platforms. Under the initial stage of the Chinese equity crowdfunding context, for the star-ups to reach a better performance of their projects as well as protecting the investors' fund security, the policy makers need to build up a healthy and orderly market by perfecting relevant laws and regulations. The development of equity crowdfunding market in China would be a long challenging journey for both the crowdfunding entrepreneurs, platforms, investors and the policy makers, with the expanding theory grounds like the research, it will provide confidence to have deeper understanding and comprehensive probe of the industry in the future.

Reference list

Agrawal, A., Catalini, C., & Goldfarb, A. (2013). Some Simple Economics of Crowdfunding. *National Bureau Economic Research*.

Agrawal, A., Catalini, C., & Goldfarb, A. (2015). Crowdfunding: Geography, Social Networks, and the Timing of Investment Decisions. *Journal of Economics & Management Strategy, 24*(2), 253-274. Retrieved from <Go to ISI>://WOS:000354193800003

Ahlers, G. K. C., Cumming, D., Guenther, C., & Schweizer, D. (2015). Signaling in Equity Crowdfunding. *Entrepreneurship Theory and Practice, 39*(4), 955-980. Retrieved from <Go to ISI>://WOS:000357388800010

Akerlof, G. (1970). The Market for Lemons: Quality Uncertainty and the Market Mechanism. *Quarterly Journal of Economics, 84*, 488-500.

Aldrich, H. E., & Fiol, C. M. (1994). Fools Rush in? The institutional Contest of Industry Creation *Academy of Management Review, 19*(4), 955-980.

Allison, T. H., Davis, B. C., Short, J. C., & Webb, J. W. (2015). Crowdfunding in a Prosocial Microlending Environment: Examining the Role of Intrinsic Versus Extrinsic Cues. *Entrepreneurship Theory and Practice, 39*(1), 53-73. Retrieved from <Go to ISI>://WOS:000347348700004

Allison, T. H., McKenny, A. F., & Short, J. C. (2013). The effect of entrepreneurial rhetoric on microlending investment: An examination of the warm-glow effect. *Journal of Business Venturing*.

Anderson, A., Park, J., & Jack, S. (2007). Entrepreneurial Social Capital: Conceptualizing Social Capital in New High-tech Firms. *International Small Business Journal, 25*(3), 245-272.

Anderson, K. B., & Saxton, G. D. (2016). Smiles, Babies, and Status Symbols: The Persuasive Effects of Image Choices in Small-Entrepreneur Crowdfunding Requests. *International Journal of Communication, 10*, 1764-1785. Retrieved from <Go to ISI>://WOS:000386942100001

Angel Exchange Website Statistics. (2016). Retrieved from http: //help.angelcrunch.com/complete

Audretsch, D. B., Bonte, W., & Mahagaonkar, P. (2012). Financial signaling by innovative nascent ventures: the relevance of patents and prototypes. *Research Policy, 41*(8), 1407-1421. doi:10.1016/j.respol.2012.02.003

Backes- Gellner, U., & Werner, A. (2007). Entrepreneurial signaling via education: A success factor in innovative start-ups. *Small Business Economics, 29*, 173-190.

Bangerter, A., Roulin, N., & Konig, C. J. (2012). Personnel Selection as a Signaling Game. *Journal of Applied Psychology, 97*(4), 719.

Bao, Z. S., & Huang, T. Z. (2017). External supports in reward-based crowdfunding campaigns: A comparative study focused on cultural and creative projects. *Online Information Review, 41*(5), 626-642. Retrieved from <Go to ISI>://WOS:000409315600004

Baritot., J. F. (2013). Increasing Protection for Crowdfunding Investors Under the Jobs Act. *Davis Business Law Journal 13*(259).

Baucus, M. S., & Mitteness, C. R. (2016). Crowdfrauding: Avoiding Ponzi entrepreneurs when investing in new ventures. *Business Horizons, 59*(1), 37-50. Retrieved from <Go to ISI>://WOS:000369199400006

Baum, J. R., Locke, E. A., & Smith, K. G. (2001). A multidimensional model of venture growth. *Academy of Management Journal, 44*, 292-303.

Baum, J. R., & Silverman, B. S. (2004). Picking winners or building them? Alliance, intellectual, and human capital as selection criteria in venture financing and performance of biotechnology startups. *Journal of Business Venturing, 19*, 411-436.

Becker, G. S. (1964). *Human Capital.* New York: Columbia University Press.

Beier, M., & Waner, K. (2015). Crowdfunding Success: A Perspective from Social Media and E-commerce. . Retrieved from http://aisel.aisnet.org/icis2015/proceedings/eBizeGov/11/

Belleflamme, P., Lambert, T., & Schwienbacher, A. (2014). Crowdfunding: Tapping the right crowd. *Journal of Business Venturing, 29*(5), 585-609. Retrieved from <Go to ISI>://WOS:000340337400001

Benlian, A., & Hess, T. (2011). The Signaling Role of It Features in Influencing Trust and Participation in Online Communities. *International Journal of Electronic Commerce, 15*(4), 7-56.

Berliner, L. S., & Kenworthy, N. J. (2017). Producing a worthy illness: Personal crowdfunding amidst financial crisis. *Social Science & Medicine, 187*, 233-242. Retrieved from <Go to ISI>://WOS:000407405100027

Bi, S., Liu, Z. Y., & Usman, K. (2017). The influence of online information on investing decisions of reward-based crowdfunding. *Journal of Business Research, 71*, 10-18. Retrieved from <Go to ISI>://WOS:000389166300002

Block, J., Hornuf, L., & Moritz, A. (2018). Which updates during an equity crowdfunding campaign increase crowd participation? *Small Business Economics, 50*(1), 3-27. Retrieved from <Go to ISI>://WOS:000418390200001

Block, J. H., De Vries, G., Schumann, J. H., & Sandner, P. (2014). Trademarks and venture capital valuation. *Journal of Business Venturing, 29*(4), 525-542. doi:10.1016/j.jbusvent.2013.07.006

Borst, Moser, & Ferguson. (2018). From friendfunding to crowdfunding: Relevance of relationships, social media, and platform activities to crowdfunding performance. *New Media & Society, 20*(4), 1396-1414. Retrieved from <Go to ISI>://WOS:000429899200008

Bosma, N. S., van Praag, C. M., Thurik, A. R., & de Wit, G. (2004). The value of human and social capital investments for the business performance of startups. *Small Business Economics, 23*, 227-236.

Brabham, D. C. (2008). Crowdsourcing as a Model for Problem Soliving: An introduction and Cases. *The International Journal of Research into New Media Technologies, 14*(1), 75-90. doi:10.1177/1354856507084420

Bradford, C. S. (2012). The New Federal Crowdfunding Exemption: Promise Unfulfilled. *Securities Regulation Law Journal, 40*(3), 195-249. Retrieved from <Go to ISI>://WOS:000309152400001

Bruderl, J., & Preisendorfer, P. (1998). Network support and the success of newly founded businesses. *Small Business Economics, 10*, 213-225.

Brush, C. G., Greene, P. G., & Hart, M. M. (2001). From initial idea to unique advantage: The entrepreneurial challenge of constructing a resource base. *The Academy of Management Executive, 15*, 64-78.

Burt, R. (1992). *Structural Holes*. Cambridge, MA: Harvard University Press.

Burtch, G., Ghose, A., & Wattal, S. (2013). An Empirical Examination of the Antecedents and Consequences of Contribution Patterns in Crowd-Funded Markets. *Information Systems Research, 24*(3), 499-519. Retrieved from <Go to ISI>://WOS:000324010300001

Busenitz, L. W., Fiet, J. O., & Moesel, D. (2005). Signaling in venture capitalists—New venture team funding decisions: Does it indicate long-term venture outcomes? *Entrepreneurship Theory and Practice, 29*, 1-12.

Bushong, S., Cleveland, S., & Cox, C. (2018). Crowdfunding for Academic Libraries: Indiana Jones Meets Polka. *Journal of Academic Librarianship, 44*(2), 313-318. Retrieved from <Go to ISI>://WOS:000429398600018

Buttice, V., Colombo, M. G., & Wright, M. (2017). Serial Crowdfunding, Social Capital, and Project Success. *Entrepreneurship Theory and Practice, 41*(2), 183-207. Retrieved from <Go to ISI>://WOS:000396454300003

Calic, G., & Mosakowski, E. (2016). Kicking Off Social Entrepreneurship: How A Sustainability Orientation Influences Crowdfunding Success. *Journal of Management Studies, 53*(5), 738-767. Retrieved from <Go to ISI>://WOS:000377212300003

Carmeli, A. (2004). Strategic human capital and the performance of public sector organizations. *Scandinavian Journal of Management Decision, 20*(4), 375-392.

Cassar, G. (2006). Entrepreneur opportunity cost and intended venture growth. *Journal of Business Venturing, 21*, 610-632.

Cheng, L., & Lu, N. (2014). Normalization of Equity-based Crowdfunding Platforms in China — A Case Study on Dajiatou. *Financial Law Forum*, 273.

Cholakova, M., & Clarysse, B. (2015). Does the Possibility to Make Equity Investments in Crowdfunding Projects Crowd Out Reward-Based Investments? *Entrepreneurship Theory and Practice, 39*(1), 145-172. Retrieved from <Go to ISI>://WOS:000347348700008
Cohen, J. E., & Lemey, M. A. (2001). Patent scope and innovation in the software industry. *California Law Review, 89*, 1-57.
Colombo, M. G., Franzoni, C., & Rossi-Lamastra, C. (2015). Internal Social Capital and the Attraction of Early Contributions in Crowdfunding. *Entrepreneurship Theory and Practice, 39*(1), 75-100. Retrieved from <Go to ISI>://WOS:000347348700005
Connelly, B. L., Certo, S. T., Ireland, R. D., & Reutzel, C. R. (2011). Signaling theory. A review and assessment. *Journal of Management, 39*(39). doi:10.1177/0149206310388419
Courtney, C., Dutta, S., & Li, Y. (2017). Resolving Information Asymmetry: Signaling, Endorsement, and Crowdfunding Success. *Entrepreneurship Theory and Practice, 41*(2), 265-290. Retrieved from <Go to ISI>://WOS:000396454300006
Cumming, D., & Groh, A. P. (2018). Entrepreneurial finance: Unifying themes and future directions. *Journal of Corporate Finance, 50*, 538-555. Retrieved from <Go to ISI>://WOS:000436917500026
Cumming, D., & Hornuf, L. (2018). *The Economics of Crowdfunding- Starups, Portals, and Investor Behavior*. Cham, Switzerland: Springer Nature.
Cumming, D., Rossi, A., & Vismara, S. (2017). *What Do Crowdfunding Platforms Do? A Comparison Between Investment-Based Platforms in Europe.* Retrieved from
Cumming, D., & Zhang, Y. L. (2016). Alternative investments in emerging markets: A review and new trends. *Emerging Markets Review, 29*, 1-23. Retrieved from <Go to ISI>://WOS:000390509500001
Davies, W. E., & Giovannetti, E. (2018). Signalling experience & reciprocity to temper asymmetric information in crowdfunding evidence from 10,000 projects. *Technological Forecasting and Social Change, 133*, 118-131. Retrieved from <Go to ISI>://WOS:000438323900010
Davis, B. C., Hmieleski, K. M., Webb, J. W., & Coombs, J. E. (2017). Funders' positive affective reactions to entrepreneurs' crowdfunding pitches: The influence of perceived product creativity and entrepreneurial passion. *Journal of Business Venturing, 32*(1), 90-106. Retrieved from <Go to ISI>://WOS:000390972100006
De Buysere, K., Gajda, O., Kleverlaan, R., & Marom, D. (2012). A framework for European crowdfunding. Retrieved from www.crowdfundingframework.eu. www.crowdfundingframework.eu
Doms, M., Levis, E., & Robb, A. (2010). Local labor force education, new business characteristics, and firm performance. *Journal of Urban Economics, 67*, 61-77.
Duocaitou. (2020). About us. Retrieved from http://www.duocaitou.com/about/about-us
Elfring, T., & Hulsink, W. (2007). Networking by Entrepreneurs: Patterns of Tie- Formation in Emerging Organizations. *Organization Studies, 28*(12), 1849-1872.
Engelberg, J., Gao, P., & Parsons, C. (2012). Friends With Money. *JOurnal of Financial Economics, 103*, 169-188.
Ennico, C. (2016). *The crowdfunding handbook*. New York: AMACOM.
Estrin, S., Gozman, D., & Khavul, S. (2018). The evolution and adoption of equity crowdfunding: entrepreneur and investor entry into a new market. *Small Business Economics, 51*(2), 425-439. Retrieved from <Go to ISI>://WOS:000440300300009
Etter, V., Grossglauser, M., & Thiran, P. (2013). *Launch hard or go home! Predicting the success of Kickstarter campaigns*. Paper presented at the COSN'13: Conference on Online Social Networks (2013), Boston, MA. Conference Paper retrieved from
Fan, Y. (2015). International Comparison on Equity-based Crowd-funding Platform Regulation. *Science of Law, 4*, 88.
Fan-Osuala, O., Zantedeschi, D., & Jank, W. (2018). Using past contribution patterns to forecast fundraising outcomes in crowdfunding. *International Journal of Forecasting, 34*(1), 30-44. Retrieved from <Go to ISI>://WOS:000418727400003
Ferris, S. P., Javakhadze, D., & Rajkovic, T. (2017). CEO Social Capital, Risk- Taking and Corporate Policies. *Journal of Corporate Finance, 47*, 46-71.

Frydrych, D., Bock, A. J., Kinder, T., & Koeck, B. (2014). Exploring Entrepreneurial Legitimacy in Reward- Based Crowdfunding. *Venture Capital, 16*(3), 247-269.
Gafni, H., Marom, D., & Sade, O. (2018). Are the life and death of an early-stage venture indeed in the oower of the tongue? Lessons from online crowdfunding pitches. *Strategic Entrepreneurship Journal*.
Gedajlovic, E., Honig, B., Moore, C. B., Payne, G. T., & Wright, M. (2013). Social Capital and Entreprenurship: A Schema and Research Agenda. *Entrepreneurship Theory and Practice, 37*(3), 455-478.
Gong, P., & Wang, B. (2015). Research on Equity-based Crowd-funding Platform Supervision in China. *South China Finance*(5), 57.
Granovetter, M. (1992). *Problems of Explanation in Economic Socialogy*. Boston Harvard Business School Press.
Gregg, D. G., & Walczak, S. (2008). Dressing Your Online Auction Business for Success: An Experiment Comparing Two Ebay Businesses. *Mis Quarterly, 32*(3), 653-670.
Gu, C. (2014). Research on Crowd-funding Market and Supervision System in EU. *Financial Law Court*, 371.
Guo, Q. (2015). *Equity Crowdfunding: Disrupting and Reconstructing the Entrepreneurial Financing Model*: Mechanical Industry Press.
Hagedorn, A., & Pinkwart, A. (2016). *The financing process of equity-basedcrowdfunding: An empirical analysis*. Berlin: Springer.
Haythornthwaite, C. (2005). Social Networks and Internet connetivity effects. *Information, Community & Society, 18*(5), 127-147.
Healy, P., & Palepu, K. (2001). Information Asymmetry, Corporate Disclosure, and the Capital Markets: A Review of the Empirical Disclosure Literature. *Journal of Accounting and Economics, 31*(1-3), 405-440.
Heminway, J. M. (2014). Investor and Market Protection in the Crowdfunding Era: Disclosing to and for the "Crowd". *SSRN Election Journal*. doi:http: //ssrn. com/abstract=2435757
Higgins, M. C., & Gulati, R. (2006). Stacking the Deck: The Effects of Top Management Backgrounds on Investor Decisions. *Strategic Management Journal, 27*(1), 1-25.
Hildebrand, T., Puri, M., & Rocholld, J. (2017). Adverse Incentives in Crowdfunding. *Management Science, 63*(3), 587-608. Retrieved from <Go to ISI>://WOS:000395813600001
Hoang, H., & Antoncic, B. (2003). Network-based research in entrepreneurship: A critical review. *Journal of Business Venturing, 29*, 340-362.
Hochberg, Y., Ljungqvist, A., & Lu, Y. (2007). Whom you know matters: Venture capital networks and investment performance. *Journal of Finance, 62*(1), 251-301.
Hoegen, A., Steininger, D. M., & Veit, D. (2018). How do investors decide? An interdisciplinary review of decision-making in crowdfunding. *Electronic Markets, 28*(3), 339-365. Retrieved from <Go to ISI>://WOS:000443324000007
Hogan, K. (2014). *Equity Crowdfunding under the Jobs Act and Sec Proposed Rules: an Inefective Compromise*: Michigan State University.
Hollow, M. (2013). Crowdfunding and civic society in Europe: a profitable partnership? *Open Citizenship, 4*, 68-73.
Hornuf, L., & Neuenkirch, M. (2017). Pricing shares in equity crowdfunding. *Small Business Economics, 48*(4), 795-811. Retrieved from <Go to ISI>://WOS:000400384800001
Hornuf, L., & Schwienbacher, A. (2018). Internet-Based Entrepreneurial Finance: LESSONS FROM GERMANY. *California Management Review, 60*(2), 150-175. Retrieved from <Go to ISI>://WOS:000445385500007
Hsu, D. H. (2007). Experienced Entrepreneurial Founders, Organizational Capital, and Venture Capital Funding. *Research Policy, 36*(5), 722-741.
Huang, Z., O'uyang, J., Huang, X., Yang, Y., & Lin, L. (2021). Explaining Donation Behavior in Medical Crowdfunding in Social Media. *SAGE open, April- June*, 1-12. doi:https://doi.org/10.1177/215824402110145
Iazzolino, G., & Laise, D. (2013). Value added intellectual cofficient (VAIC). *Journal of Intellectual Capital 14*(4), 547-563.

Iyer, R., Khwaja, I. A., Luttmer, E. F. P., & Shue, K. (2015). Screening Peers Softly: Inferring the Quality of Small Borrowers. *Management Science*.
Janku, J., & Kucerova, Z. (2018). Successful Crowdfunding Campaigns: The Role of Project Specifics, Competition and Founders' Experience. *Finance a Uver-Czech Journal of Economics and Finance, 68*(4), 351-373. Retrieved from <Go to ISI>://WOS:000443681600003
Jasinskatie, L. (2013). The Jobs Act: Does the Income Cap Really Protect Investors. *Denver University Law Review Online, 81*.
Jiang, C., Han, R., & Xu, Q. (2021). The impact of social media input intensity on reward-based crowdfunding performance: evidence from China. *Electronic Commerce Research*. doi:https://doi.org/10.1007/s10660-021-09515-7
Jiang, Y., Ho, Y. C., Yan, X. B., & Tan, Y. (2018). Investor Platform Choice: Herding, Platform Attributes, and Regulations. *Journal of Management Information Systems, 35*(1), 86-116. Retrieved from <Go to ISI>://WOS:000428861300005
15U.S.C.878c C.F.R.
Kai Wah Chu, S., Hang Chan, K., & Wu, W. (2011). Charting intellectual capital performance of the gateway to China. *Journal of Intellectual Capital, 12*(2), 249-276.
Kaminski, J. C., & Hopp, C. (2020). Predicting outcomes in crowdfunding campaigns with textual, visual, and linguistic signals. *Small Business Economics, 55*, 627-649.
Kang, L. L., Jiang, Q. Q., & Tan, C. H. (2017). Remarkable advocates: An investigation of geographic distance and social capital for crowdfunding. *Information & Management, 54*(3), 336-348. Retrieved from <Go to ISI>://WOS:000399632300006
Kaplan, S. N., & Stromberg, P. E. (2004). Characteristics, contracts, and actions: evidence from venture capitalist analyses. *The Journal of Finance, 59*(5), 2177-2210.
Kaur, H., & Gera, J. (2017). Effect of Social Media Connectivity on Success of Crowdfunding Campaigns. *Science Direct, 122*, 767-774.
Kirmani, A., & Rao, A. R. (2000). No pain, no gain: A critical review of the literature on signaling unobservable product quality. *Journal of Marketing, 64*(2), 66-79.
Kleinert., S., & Mochkabadi., K. (2021). Gender stereotypes in equity crowdfunding: the effect of gender bias on the interpretation of quality signals. *The Journal of Technology Transfer, 1*(22). doi:10.1007/s10961-021-09892-z
Kleinert., S., Volkmann, C., & Grunhagen, M. (2020). Third-party signals in equity crowdfunding: the role of prior financing. *Third-party signals in equity crowdfunding: the role of prior financing*. doi:10.1007/s11187-018-0125-2
Koçer, S. (2015). Social business in online financing: Crowdfunding narratives of independent documentary producers in Turkey. *New Media & Society, 17*(2), 231-248. Retrieved from <Go to ISI>://WOS:000349327700007
Kromidha, E., & Robson, P. (2016). Social identity and signalling success factors in online crowdfunding. *Entrepreneurship and Regional Development, 28*(9-10), 605-629. Retrieved from <Go to ISI>://WOS:000390749800001
Kuo, Y.-F., Lin, C.-H., & Hou, J.-R. (2020). The effects of anchoring on backers' pledge in reward-based crowdfunding: evidence from Taiwanese market. *Internet Research, 31*(2), 635-653.
Kuppuswamy, V., & Bayus, B. L. (2017). Does my contribution to your crowdfunding project matter? *Journal of Business Venturing, 32*(1), 72-89. Retrieved from <Go to ISI>://WOS:000390972100005
Lambert, D., & Schwienbacher, A. (2010). An empirical analysis of crowdfunding, (Publication no. www.crowdsourcing.org).
Leung, M. D., & Sharkey, A. J. (2014). Out of Sight, Out of Mind? Evidence of Perceptual Factors in the Multiple-Category Discount. *Organization Science, 25*(1), 171-184. Retrieved from <Go to ISI>://WOS:000329979200009
Levie, J., & Gimmon, E. (2008). Mixed signals: Why investors may misjudge first time high technology venture founders. *Venture Capital, 10*, 233-256.
Ley., A., & Weaven., S. (2011). Exploring agency dynamics of crowdfunding in star-up capital financing. *Academy of Entrepreneurship Journal, 85*, 85-111.

Li, D., & Xu, B. (2015). Research on China's Equity Crowdfunding Regulatory System Based on International Experience. *Zhejiang Finance, 6*, 21.
Li, J., Chen, X. P., Kotha, S., & Fisher, G. (2017). Catching Fire and Spreading It: A Glimpse Into Displayed Entrepreneurial Passion in Crowdfunding Campaigns. *Journal of Applied Psychology, 102*(7), 1075-1090. Retrieved from <Go to ISI>://WOS:000405031200004
Li, X. (2019). How lead investors build trust in the specific context of a campaign : A case study of equity crowdfunding in China. *International Journal of Entrepreneurial Behaviour & Research, 12*(11).
LI, X., & Cao, H. (2016). Information disclosure, investment experience and herd behavior— a research based on Crowdfunding investment. *Economics of Finance and Trade, 6*.
Li, Y., Ling, L., Zhang, D., & Wu, J. (2021). Lead investors and information disclosure: A test of signaling theory by fuzzy‐set qualitative comparative analysis approach. *Managerial & Decision Economics, 42*(4), 836-849. doi:10.1002/mde.3276
Li, Z., Chen, Z., Lui, T. T. S., & Chu, K. W. (2016). *The impact of intelletual capital on companies' performances: A study based on MAKE Award Winners and non-MAKE winner companies*. Paper presented at the International Conference on Knowledge Management, Vienna, Austria.
Liang, Q. (2013). The Evolution of the U.S. Private Placement Registration Exemption System and Its Implications: A Discussion on the Construction of China's Qualified Investor System. *Legal Business Research, 5*, 148.
Lin, L. (2017). Managing the risks of equity crowdfunding: lessons from China.

. *Journal of Corporate Law Studies, 17*(2), 327-366.
Lin, M., Prabhala, N., & Viswanathan, S. (2009). Social networks as signaling mechanism: Evidence from online peer-to-peer lending.
Lin, M. F., Prabhala, N. R., & Viswanathan, S. (2013). Judging Borrowers by the Company they Keep: Friendship Networks and Information Asymmetry in Online Peer-to- Peer Lending. *Management Science, 59*(1), 17-35.
Lin, M. F., & Viswanathan, S. (2016). Home Bias in Online Investments: An Empirical Study of an Online Crowdfunding Market. *Management Science, 62*(5), 1393-1414. Retrieved from <Go to ISI>://WOS:000375600800010
Lin, N. (2001). *Social capital theory and research*. New Jersey.
Liu, H., & Wang, Y. (2018). The Value of Crowdfunding: An Explanation Based on Demand Uncertainty and Comparison with Venture Capital. *Emerging Markets Finance and Trade, 54*(4), 783-791. Retrieved from <Go to ISI>://WOS:000425691700006
Liu, S., Cheng, T., & Wang, H. (2020). Effects of attention and reliability on the performance of online medical crowdfunding projects: The moderating role of target amount. *Journal of Management Science and Engineering, 5*(3), 162-171. doi:10.1016/j.jmse.2020.08.004
Liu, X. M., Huang, F., & Yeung, H. (2018). The regulation of illegal fundraising in China. *Asia Pacific Law Review, 26*(1), 77-100. Retrieved from <Go to ISI>://WOS:000450569800005
Liu, Z. Y., Peng, B. A., & Ma, C. L. (2018). Does the discriptive information impact on the financing performance of Reward-based Crowdfunding? *Foreign Economics & Management, 9*.
Lu, C., Xie, S., Kong, X., & Yu, S. P. (2014). Inferring the Impacts of Social Media on Crowdfunding. *WSDM'14 Proceedings of the 7th ACM international conference on Web search and data mining, 573-582*.
Lukkarinen, A., Teich, J. E., Wallenius, H., & Wallenius, J. (2016). Success drivers of online equity crowdfunding campaigns. *Decision Support Systems, 87*, 26-38. Retrieved from <Go to ISI>://WOS:000379097400003
Ma, G., & Yang, E. (2011). Social networks, infomal finance, and star up business. *Economic Research Journal, 3*.
MAKE. (2015). Knowledgebusiness.com.
Maxwell, A. L., & Levesque, M. (2014). Trustworthiness: A Critical Ingredient for Entrepreneurs Seeking Investors. *Entrepreneurship Theory and Practice, 38*(5), 1057-1080.
McKenny, A. F., Allison, T. H., Ketchen, D. J., Short, J. C., & Ireland, R. D. (2017). How Should Crowdfunding Research Evolve? A Survey of the Entrepreneurship Theory and Practice

Editorial Board. *Entrepreneurship Theory and Practice, 41*(2), 291-304. Retrieved from <Go to ISI>://WOS:000396454300007
Michael, S. C. (2009). Entrepreneurial signaling to attract resources: The case of franchising. *Managerial and Economics, 12*, 380-391.
Mincer, J. (1958). Investment in human capital and personal income distribution. *Journal of Political Economy, 66*, 281-302.
Mollick, E. (2014). The dynamics of crowdfunding: An exploratory study. *Journal of Business Venturing, 29*(1), 1-16. Retrieved from <Go to ISI>://WOS:000327565800001
Mollick, E., & Nanda, R. (2016). Wisdom or Madness? Comparing Crowds with Expert Evaluation in Funding the Arts. *Management Science, 62*(6), 1533-1553. Retrieved from <Go to ISI>://WOS:000377348000001
Moritz, A., & Block, J. (2016). Crowdfunding: A literature review and research directions. In D. Bruntje & O. Gajda (Eds.), *Crowdfunding in Europe. State of the art in theory and practice, eds.* (pp. 25-53). Berlin: Springer.
Moritz, A., Block, J., & Lutz, E. (2015). Investor communication in equity-based crowdfunding: a qualitative-empirical study. *Quanlitative Research in Financial Markets, 7*(3), 309-342. doi:10.1108/QRFM-07-2014-0021.
Moss, T. W., Neubaum, D. O., & Meyskens, M. (2015). The effect of virtuous and entrepreneurial orientations on Microfinance and Repayment: A signaling theory perspective. *Entrepreneurship Theory and Practice*.
Moss, T. W., Renko, M., Block, E., & Meyskens, M. (2018). Funding the story of hybrid ventures: Crowdfunder lending preferences and linguistic hybridity. *Journal of Business Venturing, 33*(5), 643-659. Retrieved from <Go to ISI>://WOS:000441494500007
Moysidou, K., & Hausberg, P. J. (2020). In crowdfunding we trust: A trust-building model in lending crowdfunding. *Journal of Small Business Management, 58*(3), 511-543. doi:https://doi.org/10.1080/00472778.2019.1661682
Nahapiet, J., & Ghoshal, S. (1998). Social Capital, Intellecutal Capital, and the Orginazational Advantage. *Academy of Management Review, 23*(2), 242-266.
Nguyen, T. V., & Rose, J. (2009). Building Trust— Evidence from Vietnamese Entrepreneurs. *Journal of Business Venturing, 24*(2), 165-182.
O'Toole, C. M., Lawless, M., & Lambert, D. (2015). Non-Bank Financing in Ireland: A Comparative Perspective. *Economic and Social Review, 46*(1), 133-161. Retrieved from <Go to ISI>://WOS:000352208000006
Organisation for Economic Cooperation and Development. (1996). The Knowledge- Based Economy. *OCED, GD*(96), 102.
Paravisini, D., Rappoport, V., & Ravina, E. (2017). Risk Aversion and Wealth: Evidence from Person-to-Person Lending Portfolios. *Management Science, 63*(2), 279-297. Retrieved from <Go to ISI>://WOS:000394362500001
Parhankangas, A., & Renko, M. (2017). Linguistic style and crowdfunding success among social and commercial entrepreneurs. *Journal of Business Venturing, 32*(2), 215-236. Retrieved from <Go to ISI>://WOS:000398748900006
Paulus, T. M., & Roberts, K. R. (2018). Crowdfunding a "Real-life Superhero": The construction of worthy bodies in medical campaign narratives. *Discourse Context & Media, 21*, 64-72. Retrieved from <Go to ISI>://WOS:000424717400008
Pichler, F., & Tezze, I. (2016). *Crowdfunding for SME: A European Perspective*. London: Macmillan Publisher.
Piva, E., & Rossi-Lamastra, C. (2018). Human capital signals and entrepreneurs' success in equity crowdfunding. *Small Business Economics, 51*(3), 667-686. Retrieved from <Go to ISI>://WOS:000443439100009
Polzin, F., Toxopeus, H., & Stam, E. (2018). The wisdom of the crowd in funding: information heterogeneity and social networks of crowdfunders. *Small Business Economics, 50*(2), 251-273. Retrieved from <Go to ISI>://WOS:000423212000002
Popescul, D., Radu, L. D., Păvăloaia, V. D., & Georgescu, M. R. (2020). Psychological Determinants of Investor Motivation in Social Media-Based Crowdfunding Projects: A Systematic Review. *Frontiers in Psychology* doi:https://doi.org/10.3389/fpsyg.2020.588121

Prasad, D., Bruton, G., & Vozikis, G. (2000). Signaling Value to Businessangels: The Proportion of the Entrepreneur's Net Worth Invested in a New Venture as a Decision Signal. *Venture Capital: An International Journal of Entrepreneurial Finance, 2*(3), 167-182.
Ralcheva, A., & Roosenboom, P. (2016). On the Road to Success in Equity Crowdfunding. *Social Science Research Network*. doi:https://ssrn.com/abstract=2727742
Robb, A., & Robinson, D. (2014). The capital structure decisions of new firms. *Review of Financial Studies, 27*, 153-179.
Ross, S. A. (1978). Some notes on financial incentive-signalling models, activity choice and risk preferences. *Journal of Finance, 33*, 777-792.
Rothler, D., & Wenzlaff, K. (2011). *Crowdfunding Schemes in Europe*. Retrieved from
Sahaym, A., Datta, A., & Brooks, S. (2021). Crowdfunding success through social media: Going beyond entrepreneurial orientation in the context of small and medium-sized enterprises. *Journal of Business Research, 125*, 483-494.
Sander, T., & Lee, T. P. (2014). A concept to Measure Social Capital in Social Network Sites. *International Journal of Future Computer and Communication, 3*(2).
Saxton, G. D., & Wang, L. L. (2014). The Social Network Effect: The Determinants of Giving Through Social Media. *Nonprofit and Voluntary Sector Quarterly, 43*(5), 850-868. Retrieved from <Go to ISI>://WOS:000342924600005
Scheaf, D. J., Davis, B. C., Webb, J. W., Coombs, J. E., Borns, J., & Holloway, G. (2018). Signals' flexibility and interaction with visual cues: Insights from crowdfunding. *Journal of Business Venturing, 33*, 720-741. doi:https://doi.org/10.1016/j.jbusvent.2018.04.007
Schwartz, A. A. (2013). Crowdfunding Securities. *Notre Dame Law Review, 88*(3), 1457-1490. Retrieved from <Go to ISI>://WOS:000326201500008
Schwienbacher, A., & Larralde, B. (2010). *Crowdfunding of Small Entrepreneurial Ventres* Forthcoming: Oxford University Press.
Sexton, D. L., & Upton, N. B. (1985). The entrepreneur: a capable executive and more. *Journal Buisiness Venturing, 1*, 129-140.
Shane, S., & Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. *Academy of Management Review, 25*, 217-226.
Sigar, K. (2012). Fret No More: Inapplicability of Crowdfunding Concerns in the Internet Age and the Jobs Act's Safeguards. *Administrative Law Review, 64*(2), 473-506. Retrieved from <Go to ISI>://WOS:000305774900004
Silverman, B. S., & Baum, J. A. C. (2002). Alliance-based competitive dynamics in the Canadian biotechnology industry. *Academy of Management Journal, 45*, 791-806.
Sina Weibo Data Center. (2021). Weibo User Development Report 2020.
Singer, J. D. (1982). Variables, indicators, and data: The measurement problem in macropolitical research. *Social Science History 6*, 181-217.
Skirnevskiy, V., Bendig, D., & Brettel, M. (2017). The Influence of Internal Social Capital on Serial Creators' Success in Crowdfunding. *Entrepreneurship Theory and Practice, 41*(2), 209-236. Retrieved from <Go to ISI>://WOS:000396454300004
Sohu data source. (2015). *China's first public verdict on equity-based crowd-funding confirms the legality of crowd-funding*. Retrieved from: http: // mt.sohu.com/20150917/n421380166.shtml
Sonenshein, S., Herzenstein, M., & Dholakia, U. M. (2011). How accounts shape lending decisions through fostering perceived trustworthiness. *Organizational behavior & human decision processes*.
Spence, M. (1973). Job market signaling. *Quarterly Journal of Economics, 87*, 355-374.
Spence, M. (1976). Product Differentiation and Welfare. *The American Economic Review*, 407-414.
Spence, M. (2002). Signaling in retrospect and the informational structure of markets. *American Economic Review, 92*, 434-459.
Steinberg, D. (2012). *The Kickstarter handbook: Real-life success stories of artists, inventors, and entrepreneurs.* Philadelphia, PA: Quirk Books.
Stewart, T., & Ruckdeschel, C. (1998). Intellectual capital: The new wealth of organizations. . *Performance Improvement, 37*(7), 56-59.

Stiglitz, J. E. (2000). The contributions of the economics of information to twentieth century economics. *Quarterly Journal of Economics, 115*, 1441-1478.
Stiglitz, J. E. (2002). Information and the change in the paradigm in economics. *American Economic Review, 92*, 420-501.
Stiver, A., Barroca, L., Minocha, S., Richards, M., & Roberts, D. (2015). Civic crowdfunding research: Challenges, opportunities, and future agenda. *New Media & Society, 17*(2), 249-271. Retrieved from <Go to ISI>://WOS:000349327700008
Stuart, R. W., & Abetti, P. A. (1990). Impact of entrepreneurial and management experience on early performance. *Journal of Business Venturing, 5*, 151-162.
Stuart, T. E., Hoang, H., & Hybels, R. (1999). Interorganizational endorsements and the performance of entrepreneurial ventures. *Administrative Science Quarterly, 44*, 341-353.
Tencent Techonology. (2020). WeChat Data Report 2020.
Troise, C., Matricano, D., Sorrentino, M., & Candelo, E. (2020). Investigating investment decisions in equity crowdfunding: The role of projects' intellectual capital

. *European Management Journal*. doi:10.1016/j.emj.2021.07.006
Tsao, H. Y., Berthon, P., Pitt, L. F., & Parent, M. (2011). Brand Signal Quality of Products in an Asymmetric Online Information Environment: An Experimental Study. *Journal of Consumer Behaviour, 10*(4), 169-178.
Unger, J. M., Rauch, A., Frese, M., & rosebusch, N. (2011). Human capital and entrepreneurial success: A meta-analytical review. *Journal of Business Venturing, 26*, 341-358.
Usman, S., M., Bukhari, F., A, S., Usman, M., Badulescu, D., & Sial, M. S. (2019). Does the Role of Media and Founder's Past Success Mitigate the Problem of Information Asymmetry? Evidence from a UK Crowdfunding Platform. *Sustainability, 11*(692). doi:10.3390/su11030692
Vismara, S. (2016). Equity retention and social network theory in equity crowdfunding. *Small Business Economics, 46*(4), 579-590. Retrieved from <Go to ISI>://WOS:000372545300005
Vismara, S. (2018a). Information Cascades Among Investors in Equity Crowdfunding. *Entrepreneurship Theory and Practice, 42*(3), 467-497. Retrieved from <Go to ISI>://WOS:000432061000005
Vismara, S. (2018b). Signaling to Overcome Inefficiencies in Crowdfunding Markets. In D. Cumming & L. Hornuf (Eds.), *The Economics of Crowdfunding* (pp. 29-56). Munich: Spring Nature.
Vismara, S., Davide, B., & Federica, C. (2017). Gender in Entrepreneurial Finance: Matching Investors and Entrepreneurs in Equity Crowdfunding. In A. Link (Ed.), *Gender and Entrepreneurial Activity*. Cheltenham: Edward Elgar.
Wang, N. X., Li, Q. X., Liang, H. G., Ye, T. F., & Ge, S. L. (2018). Understanding the importance of interaction between creators and backers in crowdfunding success. *Electronic Commerce Research and Applications, 27*, 106-117. Retrieved from <Go to ISI>://WOS:000426352300010
We are Social, & Hootsuite. (2018). Digital in 2018: global review. Retrieved from https://wearesocial.com/blog/2018/01/global-digital-report-2018
Wei, Z. Y., & Lin, M. F. (2017). Market Mechanisms in Online Peer-to-Peer Lending. *Management Science, 63*(12), 4236-4257. Retrieved from <Go to ISI>://WOS:000417712000014
Wells, J. D., Valacich, J. S., & Hess, T. J. (2011). What Signals Are You Sending? How Website Quality Influences Perceptions of Product Quality and Purchase Intentions. *Mis Quarterly, 35*, 373-396.
Welter, F. (2011). Contexualizing Entrepreneurship- Conceptual Chanllenges and Ways Forward. *Entrepreneurship Theory and Practice, 35*(1), 193-212.
Wessel, M., Thies, F., & Benlian, A. (2016). The emergence and effects of fake social information: Evidence from crowdfunding. *Decision Support Systems, 90*, 75-85. Retrieved from <Go to ISI>://WOS:000384778000008
Wheat, R. E., Wang, Y., Byrnes, J. E. K., & Ranganathan, J. (2012). Raising money for scientific research through crowdfunding. *Trens in Ecology and Evolution, 2*(28), 71-72.

Wolfe, M. T., Patel, P. C., & Manikas, A. S. (2021). Shock and awe: Loudness and unpredictability in Twitter messages and crowdfunding campaign success. *Journal of Innovation & Knowledge, 6*(4), 246-256. doi:10.1016/j.jik.2021.06.002

Yang, D., & Liu, L. (2015). On the dilemma and way out of equity crowdfunding regulation in China. *Journal of China University of Political Science and Law, 3*, 55.

Yang, D., & Wen, C. G. (2015). *Internet + Finance Crowd-funding Finance* (1st ed.): People's Publishing House.

Young, T. E. (2012). *The everything guide to crowdfunding* (Vol. 8). Avon, Massachusetts: Adams media.

Yue, Z., Zhou, Q., & Yang, X. (2016). Crowdfunding, information screening and market efficiency — an empirical study based on 'Renrendai'. *Economic Perspectives, 1*.

Zacharakis, A. L., & Meyer, D. G. (2000). The potential of actuarial decision models: can they improve the venture capital investment decision? *Journal of Business Venturing, 15*, 323-346.

Zero One Research Institute. (2015). *Annual Report on Crowdfunding Service Industry*: Oriental Publishing House.

Zhang, D., Li, Y., J., W., & Long, D. (2018). Online or Not? What Factors Affect Equity Crowdfunding Platforms to Launch Projects Online in the Pre-Investment Stage? *Entrepreneurship Research Journal, 9*(2), 1-16. doi:10.1515/erj-2017-0176

Zhang, D., Li, Y., Wu, J., & Long, D. (2018). Online or Not? What Factors Affect Equity Crowdfunding Platforms to Launch Projects Online in the Pre-Investment Stage? *Entrepreneurship Research Journal, 9*(2), 1-16. doi:10.1515/erj-2017-0176

Zhang, J., & Liu, P. (2012). Rational Herding in Microloan Markets. *Management Science*.

Zhang, Y. (2014). Gentle Supervision and Prudent Management — Inspiration from Ideas on British and American Crowdfunding Supervision. *Financial Expo (Fortune), 9*, 55.

Zheng, H. C., Hung, J. L., Qi, Z. H., & Xu, B. (2016). The role of trust management in reward-based crowdfunding. *Online Information Review, 40*(1), 97-118. Retrieved from <Go to ISI>://WOS:000374177900007

https://www.emeraldinsight.com/doi/pdfplus/10.1108/OIR-04-2015-0099

Zheng, H. C., Li, D. H., Wu, J., & Xu, Y. (2014). The role of multidimensional social capital in crowdfunding: A comparative study in China and US. *Information & Management, 51*(4), 488-496. Retrieved from <Go to ISI>://WOS:000336703500010

Zheng, R. (2015). Research on Legal System of Equity-based Crowd-funding in China. *South China Finance, 1*, 76.

Zhongchoujia. (2018). The industry report of Crowdfunding in China 2018 (I).

Zhongchoujia. (2020). Monthly Industry report of Crowdfunding in China April 2020.