

**Equity crowdfunding as an alternative source of  
entrepreneurial finance**



University of  
Chester

*This thesis submitted in accordance with the requirements of the University of Chester  
for the degree of Doctor of Philosophy by Zhijian Zhong*

July 2022

### **Declaration**

The material being presented for examination is my own work and has not been submitted for an award of this or another HEI except in minor particulars which are explicitly noted in the body of the thesis. Where research pertaining to the thesis was undertaken collaboratively, the nature and extent of my individual contribution has been made explicit.

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## **Acknowledgements**

This work would have been impossible without the unstinting guidance of my supervisors, Professor Wing Lam and Professor Phil Harris whose support and assistance have been crucial at all stages of the development of this thesis. Without Professor Wing Lam's patience, continuous support and encouragement, and insightful advice, the journey might not come to an end. My sincere gratitude extends to Professor Gary Davies for his guidance and support, particularly on statistics, Steven Markham for his feedback and encouragement and Professor Kelvin Leong for his support.

I also wish to thank all my fellow students who became friends: Ying Zhao, Dian Wang, Lan Li and Ke Zhu. Thank you so much for all of your encouragement and support throughout the years. Additionally, I would like to thank my family for their support. Finally, thank you to my wife, Xintong Li, for supporting me through my ups and downs. Thanks to everyone that supported me along the way.

# Equity crowdfunding as an alternative source of entrepreneurial finance

## Abstract

Equity-based Crowdfunding (EBC) has been playing an increasingly important role in financing entrepreneurial companies (Signori & Vismara, 2018). Project founders raise funds via online platforms, such as Crowdcube, which also gives project founders direct interaction with potential investors. Through their feedback, investors provide opinions of the business idea, which may prove useful in reshaping and improving the products or services. Although current research on equity-based crowdfunding has correlated various campaign and projects' features to success, there is a lack of convincing conceptual framework that has the potential to incorporate the interplay of the different factors in crowdfunding. In particular, the extant literature has so far attempted to explain success in terms of project characteristics, generally ignoring the characteristics of fund structure and their interrelationship with project characteristics in the success (or failure) of equity crowdfunding. This thesis is aiming to address this gap by building upon signalling theory, goal setting theory and social capital theories to develop a comprehensive conceptual framework that incorporate projects characteristics, fundraising structure and their interplay in the EBC campaign. Hypotheses are developed based on the conceptual framework.

The data of the thesis were collected from the 850 projects funded between 2011 and 2019 on EBC platform, Crowdcube, in UK. The data was analysed using a quantitative method, with the dataset being analysed using an Ordinary least squares (OLS) regression and a series of robustness tests using a logistic regression to assess the reliability of my results.

The result of this study found that higher firm age, more social media channels, and more management team members in project characteristics can contribute to the success of EBC campaigns, whilst lower funding target, less equity offered, and moderate investment threshold value to gain voting rights in fundraising characteristics can also contribute to the success of EBC campaigns. The results also suggest that project founders may establish a higher investment threshold value for investors to obtain voting rights if they are confident in the project's ability to create substantial cash flows or revenue in the future. Moreover, investors may waive their voting rights if project founders provide signals of higher-quality projects. More importantly, the result of this study found significant interaction effect between different factors, including firm age and social media, equity offered and social media, and equity offered and investment. The findings help to depict a complex web of interacting factors that when considered together, are contributing to the success of EBC.

Through investigation of the factors of project characters and its fund structure characters in equity crowdfunding, this thesis assists project founders in setting up their crowdfunding campaign and investors screening out projects with growth potential and advances understanding of Crowdfunding, especially for equity crowdfunding.

# Contents

<b>Abstract</b> .....	4
<b>Index of Tables</b> .....	8
<b>Index of figures</b> .....	9
<b>List of Abbreviations:</b> .....	10
<b>1 INTRODUCTION</b> .....	11
1.1 The Context of Research .....	13
1.1.1 History of Crowdfunding .....	15
1.1.2 Current Status of Crowdfunding Market .....	18
1.2 Knowledge Gap .....	22
1.3 Aim and Research Questions .....	24
1.4 Outline of Thesis .....	25
<b>2 LITERATURE REVIEW</b> .....	29
2.1 Definition of Crowdfunding .....	30
2.1.1 The Original Concept: Micro-Finance and Crowdsourcing .....	31
2.1.2 The Concept of Internet – Bridge of Crowdfunding.....	35
2.1.3 Utilising the Concept of Innovation .....	39
2.1.4 A Group of Individuals- The Power of The Crowd.....	40
2.1.5 The Small Amount of Funding.....	42
2.1.6 Participants in Crowdfunding-Investors, Project Founders and Platforms .....	43
2.1.7 Summary .....	47
2.2 The Landscape of Crowdfunding .....	47
2.2.1 The Difference with Other Entrepreneurial Finance .....	47
2.2.2 Main Goal in Crowdfunding .....	54
2.2.3 Features of Crowdfunding .....	54
2.2.4 The Mechanism of Crowdfunding.....	62
2.2.5 Shareholder Structures-Dual Structure and Nominee Structure.....	68
2.3 Types of Crowdfunding .....	73

2.3.1 Donation-Based Crowdfunding.....	74
2.3.2 Lending-Based Crowdfunding .....	81
2.3.3 Reward-Based Crowdfunding .....	88
2.3.4 Equity-Based Crowdfunding.....	100
2.4 Success in Crowdfunding Campaigns.....	115
2.4.1 Meeting Fundraising Target of Projects or The Percentage of Fundraising Raised .....	116
2.4.2 The Number of Investors A Project Attracted .....	117
2.4.3 The Amount of Funds Which Were Raised .....	117
2.4.4 Time Measurement: The Speed of Projects Reaching Its Fundraising Target ....	117
2.4.5 Failure in Crowdfunding Campaign.....	118
2.5 Theoretical Framework.....	118
2.5.1 Crowdfunding reducing information asymmetries.....	119
2.5.2 Signalling Theory .....	125
2.5.3 Goal Setting Theory.....	132
2.5.4 Social Capital Theories .....	133
2.5.5 Theories of Shareholder Voting .....	138
2.6 Summary .....	143
3 CONCEPTUAL FRAMEWORK AND HYPOTHESIS .....	145
3.1 Project Characteristic Factors of Crowdfunding Campaign .....	145
3.1.1 Firm Age of Projects in Crowdfunding Campaign .....	145
3.1.2 Team Member of Projects in Crowdfunding Campaign.....	149
3.1.3 Social Media of Projects In Crowdfunding Campaign .....	154
3.2 Fund Raising Structure Factors of Crowdfunding Campaign .....	160
3.2.1 Target Amount in Crowdfunding Campaign .....	160
3.2.2 Equity Offered in Crowdfunding Campaign .....	165
3.2.3 Dual Class Structure in Crowdfunding Campaign .....	169
3.3 Summary .....	173

4 METHODOLOGY .....	175
4.1 Research Philosophy .....	175
4.2 The Reasoning Behind Using a Quantitative Approach .....	177
4.3 Data Collection .....	179
4.4 Summary Statistics and Models .....	181
4.4.1 Sample Selection .....	181
4.4.2 Variables and Definitions .....	183
4.4.3 Models .....	189
4.5 Summary .....	195
5 ANALYSIS AND RESULTS .....	196
5.1 Summary Statistics .....	196
5.2 Univariate Analysis .....	197
5.3 Multivariate Analysis: Empirical Results .....	207
5.3.1 Model Results .....	208
5.4 Results by Hypothesis and Summary .....	235
6 DISCUSSIONS .....	236
6.1 Project Characteristic Hypotheses .....	236
6.1.1 Firm Age of Projects in Crowdfunding Campaign .....	236
6.1.2 Team Member of Projects in Crowdfunding Campaign .....	237
6.1.3 Social Media of Projects in Crowdfunding Campaign .....	239
6.2 Fundraising Characteristic Hypotheses .....	240
6.2.1 Expectation of Projects in Crowdfunding Campaign .....	240
6.2.2 Equity Offered of Projects in Crowdfunding Campaign .....	242
6.2.3 The Threshold Value of Voting Right Shares in Projects In Crowdfunding Campaign .....	244
6.2.4 Interrelationship Between Factors .....	247
6.2.5. Modified Conceptual Framework .....	252
6.3 Summary .....	254

7 CONCLUSIONS .....	257
7.1 Addressing Research Question .....	257
7.2 Research Values .....	258
7.3 Contribution to Knowledge.....	261
7.4 Summary .....	261
8 IMPLICATIONS, LIMITATIONS AND FUTURE RESEARCH.....	263
8.1 Implication for Project Founders .....	263
8.2 Implications for Investors .....	273
8.3 Implications for Platforms and Policy Makers .....	274
8.4 Future Research and Limitation.....	276
8.5 Summary .....	279
<b>Appendix.....</b>	<b>281</b>
<b>Bibliography.....</b>	<b>285</b>

## Index of Tables

Table 1 Sample selection criteria .....	183
Table 2 Variables and variable definitions Variable description.....	184
Table 3 Sample size in ordinal logistic regression.....	194
Table 4 Descriptive statistics.....	195
Table 5 The difference in means and medians .....	199
Table 6 The difference in team member .....	200
Table 7 Equity crowdfunding over time.....	202
Table 8 Equity crowdfunding industry .....	203
Table 9 location of Equity-based crowdfunding projects .....	205
Table 10 Equity-based crowdfunding Voting right threshold value .....	206
Table 11 Project characteristic regression results (Dependent Variable: Amount of funding raised) .....	209
Table 12 Project characteristic regression results (Dependent Variable: the number of investors) .....	210



Table 13 Project characteristic and fundraising characteristic results (Dependent Variable: Amount of funding raised) .....	212
Table 14 VIF test for OLS model of Project characteristic .....	213
Table 15 Project characteristic and fundraising characteristic results (Dependent Variable: the number of investors) .....	216
Table 16 VIF test for OLS model of Project characteristic and fundraising characteristic...	217
Table 17 Model summaries.....	219
Table 18 Interaction effect.....	221
Table 19 Ordinal logistic regression.....	227
Table 20 OLS regression in 2015-2017.....	230
Table 21 OLS regression in 2015-2018.....	231
Table 22 OLS regression in 2016-2019.....	233
Table 23 Summary of Hypothesis .....	235
Table 24 Correlation matrix. ....	281

## Index of figures

Figure 1 List of crowdfunding platforms.....	21
Figure 2 Stages of entrepreneurial firm development. Source: (Tomczak & Brem, 2013) ...	52
Figure 3 Traditional entrepreneurial financing (left) vs. crowdfunding (right) Source: (Strausz, 2015) .....	58
Figure 4 The Mechanism of crowdfunding Source: (An et al., 2014) .....	63
Figure 5 overview of donation-based crowdfunding Source: (Haas et al., 2014).....	75
Figure 6 overview of lending-based crowdfunding Source: (Haas et al., 2014) .....	82
Figure 7 overview of reward-based crowdfunding Source: (Haas et al., 2014).....	90
Figure 8 overview of equity-based crowdfunding Source: (Haas et al., 2014).....	101
Figure 9 Comparison of decision-making process for crowdfunding and traditional start-up financing and impact of systematic differences in influencing factors on process steps Source:(Hoegen et al., 2018) .....	122
Figure 10 General model of goal-setting theory Source: (Lunenburg, 2011) .....	133
Figure 11 Theoretical framework.....	143
Figure 12 Conceptual framework diagram .....	174

Figure 13 An illustrative sample campaign from Crowdcube; the solid box (drawn by author) shows that each campaign contains information related to the project and fundraising characteristics I consider. Details appear when a user clicks on these tabs .....	182
Figure 14 The difference in team member .....	200
Figure 15 Frequency of projects in years.....	201
Figure 16 Frequency of projects in industry .....	204
Figure 17 Frequency of projects in Location.....	206
Figure 18 Residuals of OLS model for Project characteristic and fundraising characteristic (Dependent Variable: Amount of funding raised) .....	215
Figure 19 Residuals of OLS model for Project characteristic and fundraising characteristic (Dependent Variable: the number of investors).....	218
Figure 20 Conceptual framework of successful equity-based crowdfunding.....	253
Figure 21 Research ethics approval .....	283
Figure 22 A summary of the project data collected from the website.....	284

## List of Abbreviations:

AIC:	Akaike Information Criterion
AON:	All-Or-Nothing
ASSOB:	Australian Small-Scale Offering Board
BIC:	Bayesian Information Criterion
CSR:	Corporate Social Responsibility
DW:	Durbin Watson
EBC:	Equity Based Crowdfunding
EIS:	Enterprise Investment Scheme
FCA:	Financial Conduct Authority
IPOs:	Initial Public Offerings
KIA:	Keep It All
OLS:	Ordinary Least Squares
PE:	Private Equity
SEIS:	Seed Enterprise Investment Scheme
VC:	Venture Capital
VIF:	Vector Inflation Factor

# 1 INTRODUCTION

Funding is the most important element for project founders and determines the future of entrepreneurial firms (Signori & Vismara, 2018). In pecking order theory, project founders will initially intend to employ internal funds when they are available (Myers & Majluf, 1984). When internal funds are lacking, project founders will be looking at raising funding from debt financing and select only external equity financing (Walthoff-Borm, Vanacker, et al., 2018). Equity-based crowdfunding (EBC) appears to be the last resort when entrepreneurial firms cannot raise funding through Initial Public Offerings (IPOs). As a new and powerful tool for project founders, crowdfunding can help push the boundaries of existing theories and help develop new ones (Block, Colombo, et al., 2018). Moreover, crowdfunding could be a pool of investment assets for following funding. It is also a place for experimentation of early-stage product and market assessment through crowdfunding, where potential customers provide funds for new unproven products. It can therefore provide quality signals to subsequent financiers for new technologies (Kaminski et al., 2019).

The primary goal of this study is to create a comprehensive conceptual model for identifying the fundamental drivers of success, or failure, in EBC platforms that is applicable to the vast majority of crowdfunding platforms, for comparing the differences between the success and failure EBC projects and for investigating the reasons that give rise to the differences and similarities that are identified. The underlying research philosophy of pragmatism was chosen for practical application to the study of crowdfunding (Creswell & Clark, 2017), in order to develop meaningful and useful policies to aid the crowdfunding environment's stakeholders. There are three parties involving raising capital in crowdfunding: project founders, investors, and platforms. project founders seek capital for a project, investors contribute that capital, and the platform serves as an intermediate between project founders and investors without reflecting any party's interests. In crowdfunding, project founder is one of most important parties. They may be entrepreneurs, founders of the companies, campaigners in crowdfunding campaign. Specially, they want to raise

funds for their projects with crowdfunding. Combined with the characteristics of EBC, this thesis develops a new theoretical framework for identifying the underlying factors of success within crowdfunding platforms, which are briefed by several theoretical perspectives: goal setting theory, signalling theory, social capital theory and shareholder voting theory, respectively. This theoretical model was used to examine potential hypotheses, which were then developed further by analysing and integrating numerous theoretical models and viewpoints for the Crowdcube crowdfunding platform.

Data of the thesis were collected from the 850 projects funded between 2011 and 2019 in the whole category on Crowdcube in UK. The data was analysed using a quantitative method, with the dataset being analysed using an Ordinary least squares (OLS) regression and a series of robustness tests using a logistic regression to assess the reliability of my results.

These findings were utilised to put each of the theoretical perspectives' hypotheses to the test. In the study of the platform, one of the most important hypotheses is H5B: Firms offering the lower threshold value of shares with voting right are more likely to succeed in crowdfunding than others. This hypothesis was developed using insights relating to signalling theory and shareholder voting theory in chapter 3. The results in chapter 5, are opposite with the proposed hypothesis, With the investment amount of shares threshold value of voting right having a negative impact on the amount of funding raised. This result enables the generation of a suggestion that project founders should set up a high investment threshold value of voting right and should retain the most valuable asset for themselves in EBC rather than sell it to amateur investors and hold the majority of the shares with superior voting power. These empirical analyses are then utilised to develop a critical set of recommendations for project founders and investors in the EBC system. Furthermore, based on the concepts and results created and analysed in this thesis, as well as the study's limitations, this work identifies future topics of investigation.

The remainder of the introduction is divided into 4 parts and gives a comprehensive review of the research's overall design. The context of research: this part explores the history of crowdfunding, as well as the current status crowdfunding market and main crowdfunding platforms, to provide context for crowdfunding. Aims and objectives: This part highlights the thesis's major research aims and objectives and research question. Outline of thesis: this part discusses how the thesis sections were developed to fulfil the aims and objectives mentioned in the preceding section. Providing an overview of each section's design and assigning aims to each section. Motivation: this part outlines the research's fundamental motivation in term of the author personal motivation and external motivation.

### 1.1 The Context of Research

The crowdfunding industry continues to expand. In 2015, the worldwide market was worth \$34.4 billion (Massolution, 2015), and by 2022, it is expected to be worth \$162.47 billion (Technavio, 2018). Crowdfunding has become a popular approach for project founders to raise money and launch new businesses to obtain funds from a large number of people on an online platform. Because of crowdfunding, project founders do not need to solely depend on the traditional financing system to raise money to support their innovation projects. Understanding relationships between stakeholders (project founders, investors, and crowdfunding platform) and their different forms of activity is critical to answering the research's overall question, "How Does Crowdfunding Work?". The author's initial step in seeking to comprehend the context of crowdfunding was to introduce a formal definition of crowdfunding, which the author accomplished through empirical gathering definitions of research and study of important interactions between stakeholders in the crowdfunding environment. Within crowdfunding, there are three primary participants: project founders, investors, and the crowdfunding platform (Estrin et al., 2018). Project founders are the most common users of crowdfunding, and they might be an individual or a group looking to collect funds for new businesses or ideas through a platform. The platform's investors are the primary financial sources that provide funds to the project founders. The platforms serve as a conduit for connecting

investors and project founders. Each platform has the power to set its own guidelines for both investors and project founders, and it does not represent any party's interests or interfere with investors' investment decisions. As a result, crowdfunding may be defined thus:

*Crowdfunding is the involvement of three parties in raising capital: project founders, investors, and platforms. Project founders seek capital for a project, investors contribute the capital, and the platform serves as an intermediary between project founders and investors without reflecting any party's interests.*

Under this definition, project founders can be anyone who wants to invest in a project for whatever reason. Investors can be normal investors or professional investors. The platforms can be online setting or offline setting and the important point is 'without reflecting any party's interests' between investors and project founders. This allows for a clear distinction between crowdfunding and conventional finance.

The rising popularity of the internet, social media and online groups has tremendously aided crowdfunding. To increase organisational legitimacy and improve the acquisition of financial resources, project founders can develop strong networks in the market and enlist the help of a wide group of individuals by online crowdfunding. Crowdfunding platforms have emerged as a unique approach to raise capital for new enterprises as a result of the growth of Web 2.0 technology (Agrawal et al., 2011). In fact, new digital technologies have altered the nature of uncertainty in entrepreneurial processes and outcomes, as well as how to manage it.

By embracing the many ways in which stakeholders interact with technology through various crowdfunding activities, crowdfunding has become an important channel to raise capital for project founders.

Thus, the study of how to attain success in crowdfunding campaigns is critical for them. This thesis investigates the use of signalling from project characterisers (such

as social capital and human capital) and fundraising characterisers (such as equity offering and voting right) in EBC. The findings of this thesis and specific recommendation can enhance project founder's knowledge of crowdfunding activity to maximise the success of their crowdfunding project.

### 1.1.1 History of Crowdfunding

Crowdfunding is not a new phenomenon; rather, it is an extension of a method for generating funds that has been around for hundreds of years. Crowdfunding in its contemporary, digitised version dates back to the turn of the century. Before the internet, a similar method was employed to control investment risks (Dresner, 2014). For example, one of the oldest forms of risk management in shipping are guarantee agreements between traders and shipping companies, in which all parties pay a portion of the loss if the cargo is lost, but when the cargo arrives safely, all parties to the contract (i.e. the guarantors) receive a proportionate share of the profits (Kallio & Vuola, 2020). This method has given the required finance to carry out high-risk projects while also allowing for the successful diversification of the project's risk among the participants (Kallio & Vuola, 2020). Moreover, the fundamental ideas of the crowdfunding industry date back to early 18th century Ireland, when the Ireland Loan Fund was created by Jonathan Swift, the "forefather of microcredits." The Fund made small loans to low-income rural people who lacked the collateral or credit history that big banks demanded (Kallio & Vuola, 2020). By the 19th century, and over 300 programmes had been established in Ireland, with private investors lending small funds to those who required a loan for a short period of time (Kallio & Vuola, 2020).

One of the first historical crowdfunding efforts took place in the United States in 1885, when the project to build the Statue of Liberty on Liberty Island off the coast of New York ran into financial problems (Dresner, 2014). When previous methods were inadequate, Joseph Pulitzer decided to begin a fundraising drive in his own newspaper, *The New York World*, to fund the building of a foundation for the Statue of Liberty (Dresner, 2014). In exchange for a contribution, he offered to publish the identities of all contributors, regardless of quantity, in his magazine. More than 160

thousand contributors contributed over \$100,000 in less than five months to build the pedestal (Dresner, 2014). The majority of the contributions were small, ranging from a few cent to a buck (Dresner, 2014). However, while the Statue of Liberty campaign was perhaps the most well-known and frequently mentioned, it was not the first crowdfunding project.

There are even earlier examples of crowdfunding. In 1713, poet Alexander Pope started out to translate Greek poetry into English, which included a translation of Homer's epic poem "The Iliad." He invited supporters to contribute two gold guineas to his effort in exchange for their names being printed in the acknowledgements of an early version of the book (Kallio & Vuola, 2020). Another example is the great composer Mozart, who followed a similar route at the end of the eighteenth century (Kallio & Vuola, 2020). He wished to play three piano concertos in a Vienna concert hall and issued an appeal to possible supporters, giving manuscripts to those who agreed to give cash for this purpose (Kallio & Vuola, 2020). This method is similar to the function of reward-based crowdfunding, when campaigners give funders first access to new items presented in campaigns (Kallio & Vuola, 2020). While Mozart did not meet his financial target on the first try, he did succeed a year later on the second try, when 176 backers gave enough cash to bring his concerto tour to reality, and they were all mentioned in his concertos' manuscript (Kallio & Vuola, 2020).

Another example utilising the function of reward-based crowdfunding in the period of 1996 to 1997 is that the British rock band Marillion raised 60 thousand dollars from its fans through the internet to support a tour in the United States. This campaign, as well as other successful fan-based financing rounds that followed, contributed to the growing popularity of modern crowdfunding in the early 21st century (Kallio & Vuola, 2020). Wider usage and expansion of the type of funding was made feasible by the internet's rising accessibility and use by both enterprises and families, which in turn allowed for the cost-effective reach of a big population at the same time (Kallio & Vuola, 2020).



When it launched in the United States in 2003, ArtistShare was one of the first contemporary crowdfunding sites. Through this service, musicians have and continue to have the option to seek funds to cover their recording costs from a broad audience, including their own supporters and fans (Kallio & Vuola, 2020). Supporters who make monetary donations are given the chance to download the artist's album (or song) after it is finished. The success of ArtistShare has also drawn other participants to the market, the most well-known and successful of which are reward-based platforms Indiegogo, which has been in operation since 2008, and Kickstarter, which has been in operation since 2009.

When donation and reward-based crowdfunding began to become popular achievements, it was quite apparent that a similar method would also be utilised in the capital markets to obtain investment-oriented financing (Kallio & Vuola, 2020). During the previous decade, the industry began to show platforms attempting to facilitate capital raising from investors by leveraging the internet's potential to make it easier and faster to collect and disseminate economic information while simplifying the procedure and employing a standardized approach (Kallio & Vuola, 2020). The objective here was to use contemporary technology to ease, to the greatest extent feasible, the acquisition of financing from formerly cumbersome and laborious processes (Drover, Busenitz, et al., 2017). Obtaining money from angel investors used to take at least a few months, but with the internet, the same capital could be obtained in a matter of days, if not a few weeks. Many of today's most prominent crowdfunding platforms were founded in the United States beginning in 2005. In 2010, the crowdfunding boom spread to Europe. From this moment forward, crowdfunding gained popularity in the UK, Germany, and the Netherlands, the most established European crowdfunding marketplaces. According to market data, crowdfunding has made tremendous development. The US-based peer-to-peer and business-to-business lending-based crowdfunding platform Lending Club, formed in 2006 in San Francisco and floated on the New York Stock Exchange in December 2014 (Freedman & Nutting, 2015), while the UK-based equity crowdfunding (EBC) platform Crowdcube began in the UK in 2011 (Vismara, 2016).

### 1.1.2 Current Status of Crowdfunding Market

Currently, there are over 2,000 crowdfunding platforms that promote connections between project founders and potential donors (J. C. Short et al., 2017). Their combined economic impact is enormous. In 2015, the worldwide market was worth \$34.4 billion (Massolution, 2015), and by 2022, it is expected to be worth \$162.47 billion (Technavio, 2018). The World Bank estimates that by 2025, crowdfunding will have generated over \$300 billion in total transactions (Meyskens & Bird, 2015). 70 professionals were surveyed about the future of the crowdfunding sector in Germany, Switzerland, and Austria. Experts predict that by 2020, the worldwide crowdfunding market will have grown to US\$35 billion (Gierczak et al., 2016). There are a few notable examples that have been observed in the diverse range of online crowdfunding platforms available throughout the world:

Kickstarter is one of the oldest and most popular online crowdfunding services. Kickstarter was launched in 2009. With the assistance of over 14 million investors, more than 130,000 projects have received funding aggregating over 3 billion dollars (Chaney, 2019). Kickstarter is a club of several million people who have invested hundreds of millions of dollars to finance creative projects in areas such as art, dance, design, music, film and video, and theatre, according to the company's website (Kuppuswamy & Bayus, 2017). It enables project founders to experiment with new goods and services and be supplied with a large amount of capital when the result is uncertain.

Indiegogo, located in San Francisco, is a global reward based crowdfunding platform that allows any project founders to raise funding for their ideas or their new ventures as well. Indiegogo has hosted many campaigns for organisations, NGOs, a group of persons and individuals, a community, or even a religious or political organization collecting funds all across the world since its inception in 2007. Danae Ringelmann, Slava Rubin, and Eric Schell established the international crowdsourcing portal Indiegogo. Since 2007, over 800,000 projects have been started, with over 1.3 billion dollars funded (Cumming et al., 2020).

Kiva is the world's largest lending-based crowdfunding platform (Needleman, 2010), and operates in 69 different countries (Allison et al., 2015). Kiva is a non-profit company formed in 2005 with the worldwide aim of connecting people via loans to relieve poverty (Berns et al., 2020). Kiva does not lend directly to project founders, but rather collaborates with microfinance lenders all around the globe, who it refers to as "field partners". Kiva has now raised 1.3 billion dollars in loans, with a payback percentage of 96.8%. Kiva has lent money to almost 3.2 million people.

Lending Club has expanded rapidly since its start. The total amount of loans granted increased from less than a billion dollars in 2013 to almost 60 billion dollars in 2019 (Dong, 2020), and on Lending Club, the average P2P loan amount is \$8,626 (Galloway, 2009). Today, Lending Club functions more like a financial services firm than a marketplace. It provides a wide range of financial services to institutional investors, including online lending (unsecured), note investment, loan-backed trusts/security, financial consulting, and other structured products. Despite this, the majority of its revenue comes from transaction fees for loans generated through the site (Dong, 2020).

Prosper is the first peer-to-peer lending network in the United States, having launched in 2005. Prosper is worth \$6,172 (Galloway, 2009). Prosper, as one of the largest online peer-to-peer lending platforms, hosts online auctions where potential borrowers can seek a three-year, unsecured, fixed-rate loan (Fitzpatrick & Mues, 2021). The borrowers give information about the loan, such as the amount, the maximum interest rate, the reason for utilising the loan, and the borrowers' personal information for the listing.

GlobalGiving is an example of a donation-only website. It enables donors to make donations to development campaigns all across the world (Bradford, 2012). The site's administrator, the GlobalGiving Foundation, charges a 15% fee and promises that the balance of the gift will reach the programme by two months (Bradford, 2012). GlobalGiving, like other pure contribution platforms, is, however, restricted to non-profit organisations (Bradford, 2012).

GoFundMe is a for-profit donation-based crowdfunding website. It enables users to raise money online by soliciting donations through the website. It may be used for anything, although most campaigns raise funds for medical bills, youth sports, or educational fees (Kahn, 2018). According to its website, the GoFundMe platform has raised more than \$5 billion.

Crowdcube was one of the earliest EBC platforms in the world, having launched in the UK in 2011. Crowdcube has raised over 480 million pounds (Rossi & Vismara, 2018), enabling project founders to raise capital via three types of means: equity, convertible bond, and pure debt (such as bond) (Rossi et al., 2020). For Crowdcube, the average amount raised per successful campaign is 0.7 million pounds. This platform operates on a “all-or-nothing” model, meaning that if the campaign's goal is achieved, the campaign is a success, and investors obtain the direct shares of the firm; if the goal is not met, the money is returned to investors at no cost to them.

Seedrs was founded in 2012, which also enables businesses to raise funds in three ways: equity, cash, and convertible. When you invest in a Seedrs fund, you become an equity holder in each company that the fund manager selects (Rossi et al., 2020). For Seedrs, the average amount raised per successful campaign is 0.6 million pounds. Since its inception in 2012, Seedrs has raised approximately 400 million pounds. Seedrs employ integrated nominee structures, which means that instead of each individual supporter becoming a shareholder, the platforms themselves remain the representation of their investors during the time of investment.

Platform	Type	Country
Crowdcube	Equity	UK
Seedrs	Equity	UK
SeedInvest	Equity	US
Wefunder	Equity	US
StartEngine	Equity	US
Kickstarter	Reward	US
Indiegogo	Donation/Reward	US
Kiva	Lending	US
Lending Club	Lending	US
Prosper	Lending	US
GlobalGiving	Donation	US
GoFundMe	Donation/Reward	US

Figure 1 List of crowdfunding platforms

This is not a full list of crowdfunding platforms in figure 1; rather, it is intended to provide some instances of crowdfunding platform subcategories. These platforms are up and running, with a combined total of billions raised throughout their lives. Crowdfunding platforms can be further divided into subgroups based on the purpose of platforms, financial requirements of project founders, and rights of investors (See chapter 2.3).

The growth of fundraising from a regional to a global phenomenon, with platforms like Kiva, Kickstarter, Seeders, and Prosper giving funds all over the globe, is one of the most essential aspects of web crowdfunding. This is not to suggest that all crowdfunding platforms are global; due to variances in legal limitations, some sites may only serve a single nation.

For example, Seeders and Crowdcube, an EBC website, exclusively raises funds for projects in the United Kingdom. As a result, web crowdfunding may be seen as a redesigning of crowdfunding, with the web promoting greater worldwide crowd

funding, allowing crowdfunding to shift from a localised to a global phenomenon. Moreover, the policies of EBC in the United Kingdom are frequently referred to as a key component of its growth, serving as a template for other areas (Steinhoff, 2015). Some other countries, such as Germany, merely established special laws in 2015 and they had not previously adopted to EBC, which had occurred within the framework of existing securities law. The amount of funds raised in nations where EBC is permissible, such as France and Italy, is far smaller than in the UK (Vismara, 2016). For the regulation of EBC in the United States, national EBC campaigns have only been open to unaccredited investors since 2016 (Cummings et al., 2020). The United Kingdom, the world's biggest market for EBC, offers the finest opportunities to learn more about this type of alternative finance, and Crowdcube is the leading EBC platform. As a result, I investigated the UK market.

## 1.2 Knowledge Gap

Financial capital is often regarded as a critical resource for enabling entrepreneurial activity (Florin et al., 2003). Nevertheless, for project founders, obtaining sufficient financial resources from external sources is extremely challenging. Instead, project founders are increasingly able to obtain external financing through crowdfunding. It is interesting for the author to understand the gap between project founders and investors in crowdfunding. Because there is information asymmetry, it is difficult for project founders to invite investors to their projects (Agrawal et al., 2011). It is worth finding out why project founders are attracting investors when their projects are still in the early stages of development in crowdfunding, especially in EBC. In EBC, investors do not just fund a project in order to obtain incentives, discounts, or benefit; they also own a tiny piece of the firm and subsequently receive a percentage of the return that is proportional to their investment (Rossi et al., 2019a). With the uncertainty of projects, investors may not receive any return from these projects and lose its principal. Despite the circumstances, crowdfunding allows future demand to not only be recognised, but also to be used to directly fund the creation of a product, allowing for the development of new items without having to anticipate unknown demand (Mollick, 2014). The money raised through the crowdfunding market is a

sign of the crowdfunding market's continual expansion and present competitiveness. Their combined economic impact is enormous. In 2015, the worldwide market was worth \$34.4 billion (Massolution, 2015), and by 2022, it is expected to be worth \$162.47 billion (Technavio, 2018). The World Bank estimates that by 2025, crowdfunding will have generated over \$300 billion in total transactions (Meyskens & Bird, 2015).

The emergence of the crowdfunding phenomenon has given rise to the studies of crowdfunding as an academic topic. Because of the wide scope of crowdfunding, it may be studied in a variety of social fields, resulting in works that range from how crowdfunding platforms employ platform mechanisms to mitigate moral hazard and to avoid to defraud the people of their money (Strausz, 2015), to whether crowdfunding is a method of democratising creation to gain access to finance (Mollick & Robb, 2016) and to how crowdfunding helps numerous patients access enthusiastic donors and address financial difficulties (S. Liu et al., 2020).

Due to the field's nascent status, there are still gaps in knowledge in scientific studies on crowdfunding, as well as unexplored issues that might give direction to crowdfunding participants. Adding clarity to one's understanding of crowdfunding is especially important considering the field's rapid expansion. Although current research on EBC has correlated various campaign and projects' features to success, this list of success determinants is far from completed. Moreover, the literature has so far attempted to explain success in terms of project characteristics, such as Piva & Rossi-Lamastra's (2018) focus on the effect of human capital and project founders' experiences on campaign. J. Block et al., (2018) analysed the influences of posting updates, whilst some research concentrated on social capital and social network contacts (Datta et al., 2019; Estrin et al., 2018; Vismara, 2016). De Crescenzo et al., (2020) refer to the six project characterises, including firm age, industry sector, number of founders or CEOs, and founder or CEO gender, presence of rewards and number of pictures, generally ignoring the characteristics of fund structure and how to combine with project characteristics in the success of EBC. The author attempts to address this gap by analysing the broadest and most thorough dataset of over 850

EBC campaigns performed between 2011 and 2019 on Crowdcube, one of the world's largest platforms.

### 1.3 Aim and Research Questions

A review of relevant crowdfunding literature helps to realise that, despite the rapidly increasing number of studies on crowdfunding, there is a lack of in-depth study on the connection between entrepreneurial finance and crowdfunding. In particular, it is not clear if EBC can be considered as alternative entrepreneurial finance. If so, what are the factors that give rise to the success of EBC? In light of this, this project aims to address the following research questions:

What elements contribute to the success of equity-based crowdfunding as an alternative source of entrepreneurial finance?

To answer the above question, the following aims and objectives need to be addressed:

1. To investigate the main elements and their interaction relationship that give rise to successful equity-based crowdfunding.
2. To compare the differences between the success and failure of equity based crowdfunding projects.
3. To investigate the causes behind the differences and similarities that have been identified.

Due to the economic benefit of crowdfunding, it is vital to explore how it might help crowdfunding participants and contribute to the existing knowledge of crowdfunding. Investors, project founders, and the platforms are the three main stakeholders in the crowdfunding system. They may all gain from a study into crowdfunding success that looks at how crowdsourcing works (or not). It is expected that recommendation based on the research findings can have practical value to the practitioners in this field. For example, helping project founders to include the relevant information and use a more adequate approach when listing their projects in crowdfunding platforms.



Or helping investors to make informed decision when making investment decisions. Furthermore, this study could contribute to the crowdfunding literature. First, definitions of crowdfunding will be critically reviewed and discussed. Second, the author aims to investigate how project characteristics and fundraising structure characteristics may be leveraged to reduce the impact of information asymmetry, particularly when the condition of voting right is included. Thus, the external motivations can be linked to the author's personal motivations, for assisting crowdfunding project founders and investors and to add to the current literature, therefore improving the understanding of the subject under this research.

Moreover, for research ethics considerations, secondary information available publicly online will be collected for this project. In particular, the public information that is available in the EBC platform Crowdcube will be collected and analysed. There will be no direct or indirect contact between the companies that listed in the crowdfunding platforms and the researchers. Although the proposed work will consider individual organisation's public information, no surveying or observance of subjects other than that obtained from public platform. No attempt will be made to access any data that is not publicly available.

#### 1.4 Outline of Thesis

The chapters of the thesis were designed to achieve these objectives and address the research question above. The following sections explain the underlying design concepts and the goals they were created to achieve.

Chapter 2 provides the detailed literature review. It is divided into four key sections along specific themes, as follows: Defining crowdfunding examines the existing crowdfunding definitions critically. It investigates the various features that make up each of the current definitions, before developing a basic definition of crowdfunding by critically analysing the interplay of the three major players in crowdfunding, namely the project founders, investors, and the platform itself. This broad definition highlights an important contrast between crowdsourcing and other traditional financing techniques.

Subdividing crowdfunding examines the present crowdfunding subdivision techniques of reward-based, donation-based, equity-based, and lending-based. These sub-divisions are built around the crowdfunding platforms' investors involvement privileges. The thesis' theoretical framework is built by critically analysing current literature, with each section devoted to existing and future subdivisions of crowdfunding. Additional subgroups were created based on the rights of project founders and investors to participate. The last component of this section demonstrates this subdivision approach in action across a variety of crowdfunding sites. Landscape of crowdfunding demonstrates the goal of crowdfunding, the difference with other venture financing methods, The Mechanism of Crowdfunding.

Success in Crowdfunding establishes a comprehensive definition of success, which is critical in the development of the theoretical framework, in chapter.3. In addition, it analyses the consequences of crowdfunding failure.

Theoretical framework development analyses the evolution of the thesis's primary theoretical framework, based on six key conceptual areas. These areas are signals, including firm age, human capital, social capital, the amount of target, equity offered and voting rights. Each topic critically examines the growing crowdfunding literature to speculate on how crowdsourcing success could emerge. This section's results are integrated to provide a theoretical framework. It serves as the foundation for the development of conceptual frameworks for each crowdfunding platform.

Chapter 3 provides a critical review of conceptual framework and hypothesis. After an initial assessment of the present state of the crowdfunding literature, the author focused on a few questions to better understand the foundations of crowdfunding. Taking forward the literature review, a conceptual framework will be developed, which this project underpins. Hypotheses will then be developed.

Chapter 4 provides a methodology that outlines the design of the research and states the methods used to collect data on the case studies. The fundamental research

philosophy as well as the associated research design were presented. The underlying research philosophy of pragmatism was chosen because it fitted in with the author's personal opinion on the ontological structure of the world and allowed for practical application to the study of crowdfunding (Creswell & Clark, 2017). The pragmatic world view leads to the choosing of a quantitative process over a qualitative process based on the principle of using the best measure available. The major data gathering and administration strategies utilised for both the Crowdcube datasets are discussed in the data collection section. This section tries to show what platform data were utilised and why they were used, rather than highlighting the actual collecting process used for the dataset.

Moreover, the models of regression were carried out to examine the Crowdcube dataset. This section also includes a summary of my selection criteria: data were collected from the 850 projects funded between 2011 and 2019 in the whole category on Crowdcube. There are 31 projects removed from the data because of operating overseas without information of its business age to reduce cross-country heterogeneity. 33 projects were removed due to lack of information of social media's number or incorporation date and cannot be accessed in the platform because they had withdrawn their projects from crowdfunding or platform deleted it. 11 projects raised funding via bond rather than EBC.

Chapter 5 provides the results from the empirical analysis. This chapter consists of three parts: summary statistics, univariate analysis, and multivariate analysis. In the first part, it describes characteristics and activities of all crowdfunding campaigns in the sample. In the second part, it compares the characteristics and activities of successful and unsuccessful campaigns in terms of their location, their industry, year of incorporation, year into crowdfunding campaign, project characteristics and fund-raising structure characteristics. In the third part, it examines the causal factors of the success of EBC campaign by including potential explanatory variables and control variables. In addition, a subsection in part three focuses on successful EBC campaigns, and examines what factors lead to success of these projects. The interaction effect analysis will be carried out to see if some of the factors, when considered together,

would have interaction effect on the crowdfunding projects. In this section, the author also considers whether the collected empirical evidence supports the hypotheses developed within the conceptual framework, aimed at better understanding which characteristics can have a positive influence on the success of campaign.

Chapter 6 combines the results from the assessment of the hypotheses and develops a set of generalised findings built around the various elements of the conceptual framework, discusses in more depth the findings of the analysis and attempts to explain the reasons behind the findings. These findings are then critically analysed with consideration to the literature and the inherent constraints of the study, to formulating a set of recommendations for the different stakeholders of crowdfunding. In addition, depending on the findings and constraints, Chapter 8 outlines a set of future study opportunities.

Chapter 7 entails the conclusions of this research. This part considers whether the research's major goal and other goals were met, as well as how the results addressed the research question and reflected the conceptual framework. It also emphasises the main elements of this work's contribution to knowledge.

Chapter 8 states a set of implications resulting from the earlier sections of the thesis. The implications focus into specific implications for project founders, investors, platforms and policy makers involved in crowdfunding. And this chapter also states the limitations of this study and offer avenues for further research.

## 2 LITERATURE REVIEW

In this chapter relevant literature of crowdfunding will be discussed how crowdfunding developed to EBC, leading to the development of the theoretical framework of this thesis. This includes the following sections:

**Defining crowdfunding:** this section examines the existing crowdfunding definitions critically. It investigates the various features that make up each of the current definitions, before developing a basic definition of crowdfunding by critically analysing the interplay of the three major players in crowdfunding, namely the project founders, investors, and the platform itself. This broad definition highlights an important contrast between crowdsourcing and other traditional financing techniques.

**Landscape of crowdfunding:** This section examines the goal of crowdfunding, the difference with other venture financing methods, The Mechanism of Crowdfunding.

**Types of crowdfunding:** This section examines the present crowdfunding subdivision techniques of reward-based, donation-based, equity-based, and lending-based. These sub-divisions are built around the crowdfunding platforms' investors involvement privileges. The thesis' theoretical framework is built by critically analysing current literature, with each section devoted to existing and future subdivisions of crowdfunding. Additional subgroups were created based on the rights of project founders and investors to participate. The last component of this section demonstrates this subdivision approach in action across a variety of crowdfunding sites.

**Success in Crowdfunding:** This part establishes a comprehensive definition of success, which is critical in the development of the theoretical framework, in section 2.5. In addition, it analyses the consequences of crowdfunding failure.

**Theoretical framework development:** This part analyses the evolution of the thesis's primary theoretical framework, based on six key conceptual areas. These areas are signals, including firm age, human capital, social capital, the amount of target, equity offered and voting rights. Each topic critically examines the growing crowdfunding literature to speculate on how crowdsourcing success could emerge. This section's results are integrated to provide a theoretical framework. It serves as the foundation for the development of conceptual frameworks for crowdfunding platforms.

## 2.1 Definition of Crowdfunding

It is difficult to find an universally accepted definition for crowdfunding as it involves many aspects of discipline or component. Mollick (2014) suggested that “a broad definition of crowdfunding is therefore elusive, especially as crowdfunding covers so many current (and likely future) uses across many disciplines.” (p.2) In light of this, this thesis will review extant definitions aiming to advance understanding of the notion of crowdfunding. By critically considering the existing definitions of crowdfunding and the underlying assumptions and theoretical stance of each definition, the different definitions are then compared and contrasted. As mentioned earlier, various definitions of crowdfunding exist, of which none have yet received universal acceptance. Some research has developed the concept from the donation to ventures’ crowdfunding: “Politicians, charities, and local non-profit organizations all engage in raising funds from broad swaths of the population for specific purposes and generally in relatively low dollar amounts. The term has become synonymous with efforts to raise funds from numerous donors, usually in small amounts through internet sources. Often the solicitations seek donations, political, charitable, or otherwise. In recent years, however, there has been a growth in the use of such technique to provide start-up or seed capital for small businesses as well as other ventures that are promoted on the basis of a potential economic return to the donors”(Cohn, 2012, p.1434).

### 2.1.1 The Original Concept: Micro-Finance and Crowdsourcing

Crowdfunding derives from two dimensions of concepts like micro-finance (Morduch, 1999) and crowdsourcing (Howe, 2006b), which makes the further transformation to a unique way of fundraising for project founders (Bouncken et al., 2015). These two key pieces of information reveal the overall system of crowdfunding: how it works, who participate in it, what use for and how it operates. In the following section, the author will discuss the definition of crowdfunding, based upon the concept of micro-finance and crowdsourcing developing into crowdfunding and interactions between them.

#### 2.1.1.1 Using the Concept of Crowdsourcing

Crowdsourcing is the process of gathering contributions (such as services, ideas, or material) from a large number of individuals (the crowd) in order to complete a task. Crowdsourcing can define a lot of what people do on the Internet currently and most individuals crowdsource numerous activities on a regular basis (Kleemann et al., 2008). Someone utilising the "crowd" can do things like ask Facebook friends for product recommendations or evaluate a restaurant on TripAdvisor. To be a part of the crowd might include things like making a product recommendation or writing a restaurant review (Kleemann et al., 2008). The true advantage of crowdsourcing, on the other hand, is that it may break down a seemingly impossible undertaking into manageable pieces. Crowdsourcing not only allows previously impossible tasks to be completed, but it may also increase the quality of the outcomes. Websites like designs and DesignCrowd are good examples of how design tasks can be posted online and pitched to a global community of designers (Brabham, 2009). The user has more options since they have access to designers they may not have met or found otherwise, and the product is generally better designed.

The concept of crowdfunding has first been defined in scientific research by Howe in 2006. "Simply defined, crowdsourcing represents the act of a company or institution taking a function once performed by employees and outsourcing it to an undefined (and generally large) network of people in the form of an open call and the crucial

prerequisite is the use of the open call format and the large network of potential laborers” (J Howe, 2006, p. 5).

Jeff Howe also provided further explanation in defining the concept of crowdsourcing in 2008:

“Crowdsourcing describes the process by which the power of the many can be leveraged to accomplish feats that were once the province of the specialised few. The crowd is more than wise talented, creative, and stunningly productive”(Jeff Howe, 2008, p 1).

Based on the definition of Howe, the word of crowdsourcing is formed by "crowd" and "outsourcing". Outsourcing is pointing to the description of outsourcing specific functions to a group of external persons (Kleemann et al., 2008, p 6). Moreover, the idea of "wisdom of a crowd" (Surowiecki, 2005) is used as a part of crowdsourcing as well. Kleemann et al (2008) focus on the profit-oriented firm in crowdsourcing: “Crowdsourcing takes place when a profit-oriented firm outsources specific tasks essential for the making or sale of its product to the general public (the crowd) in the form of an open call over the internet, with the intention of animating individuals to make a [voluntary] contribution to the firm's production process for free or for significantly less than that contribution is worth to the firm” (Kleemann et al., 2008, p 6). Brabham (2009) discuss that crowdsourcing is a way to solve complex problems in a less costly manner by the firm: “Crowdsourcing is a legitimate, complex problem-solving model, more than merely a new format for holding contests and awarding prizes. It is a model capable of aggregating talent, leveraging ingenuity while reducing the costs and time formerly needed to solve problems” (Brabham, 2009, p.252).

Starbird (2012) states more detail of crowdsourcing, which connects with the idea of "wisdom of a crowd". Crowdsourcing utilises the competitive advantage of different workforces and its resources to complete their work: “Crowdsourcing imitates outsourcing by utilising external, often remote, workforces. However, outsourced workforces are typically found remote to the company utilising them, but within another organization structure and often have co-located employees. Workers in



crowdsourced projects can be dispersed across the entire globe, relying on their own resources (an Internet connection) to complete their work. Their only connections to other workers—if connected at all—are in many cases from within the crowdsourced project. Also, because they can involve thousands of participants in non-traditional work situations (in some cases performing a few minutes or even seconds of work), crowdsourcing projects are not always endeavours that could be performed in-house by an existing company, as outsourcing arrangements are” (Starbird, 2012, p.2).

An idea harnessed effectively and efficiently by a group of people is more talented and smarter than that created by individuals. The book *The Wisdom of Crowds* has examined several cases by James Surowiecki and has made a conclusion that crowds can provide a very successful solution for a larger number of individuals. After several examinations by Surowiecki, there is empirical evidence that ‘under the right circumstances, groups are remarkably intelligent, and are often smarter than the smartest people in them.’ (Surowiecki, 2005) There is a distinct difference between aggregation of ideas and average of ideas. Aggregating all solutions are the most important in the idea of the wisdom of crowds rather than averaging all solutions. Averaging all solutions is that all solutions collected from a group of people are divided by the number of people. The average solution may be a moderate answer but not the best answer. However, the aggregating solution is an answer that the most people will choose from all solutions, which may be a good one or even be the best one for those questions. Thus, the aggregating solution is the result of wisdom of collectives.

#### 2.1.1.2 Applying the concept of micro-finance

One of the key concepts utilised in the existing definitions of crowdfunding is micro-finance. Some research used this in their definitions of crowdfunding. Crowdfunding is implemented via micro-finance to raise funds or developed from micro-finance; Tomczak & Brem (2013) used the concept of ‘taking a loan’ in definition of crowdfunding, Allison et al. (2015) applied the word of ‘Microloans’ and Cordova et al. (2015) stated that crowdfunding mixed the micro-finance and social network.

As is mentioned above, crowdfunding is a combined term made by converging the definition of crowdsourcing and the definition of microfinance. Crowdfunding is closely connected to micro lending (Vitale, 2013). Microlending is the concept of providing finance to individuals who do not have access to traditional credit from financial organisations (Armendariz and Morduch, 2010). Microfinance refers to small companies that require relatively modest amounts of cash and find it difficult to obtain financing from regular financial institutions (Vitale, 2013).

Depending on the institutional environment, microfinance can take several forms. Banking rules, the amount of informality in the economy, family or kinship ties, and the existence or absence of global organisations, for example, all affected how microfinance began and grew in many developing nations (Khavul et al., 2009, 2013). Many developed economies now have microfinance institutions that give modest loans to businesses that may not have easy access to capital. Furthermore, individuals in both developed and developing economies now have new chances to join in microfinance as micro-angels and microlenders, and to provide capital to others. Finally, with the rise of social media, a growing number of microfinance groups have restructured their operations to seek donations and connect investors with businesses via online platforms. Microfinance began with severe institutional restrictions, but it has now evolved to work across a variety of institutional settings.

Lack of financial access was discovered to be a key issue for these micro-enterprises all over the world. The International Finance Corporation (IFC) ((IBRD), 2002) reports views from the world's more than 500 million impoverished profitable micro-project founders, which stated that access to capital was the most important component in the success of projects. Traditionally, banks have provided money to those who are not part of the microfinance sector. Thus, there is a gap in finance market for new ventures, which gives a chance to crowdfunding or microfinance.

Some platforms concentrate on the field of crowdfunding and how it may help small businesses fill the financial gap. In 2005, Kiva was at the forefront of this new social entrepreneurship phenomenon, offering a website portal through which individuals

could fund small (around \$25 USD) no-interest loans to people in third-world and developing countries to help them buy seeds for crops or a drinks cart or newspaper stand to start a small business (Vitale, 2013). Kiva attempted to blend the discipline of markets with the altruistic spirit of international charity in this regard. In 2006, the phrase "crowdfunding" was created (Vitale, 2013).

### 2.1.2 The Concept of Internet – Bridge of Crowdfunding

The internet's development has boosted the concept, allowing for a much bigger and more diversified "crowd." The use of the internet is one of the characteristics used to define crowdfunding. For example, D. Cumming et al. (2012) stated that fundraising is done through the internet. Schwienbacher & Larralde (2010) used 'over the internet' in the definition and An et al. (2014) referred to 'a network of people on the Internet'.

Crowdfunding is greatly improved by the growing popularity of the internet and online communities. Project founders may build strong networks in the market and use support from a diverse range of people to boost organisational legitimacy and improve the acquisition of financial resources. In this situation, and as a result of the advancement of Web 2.0 technology (Agrawal et al., 2011), Crowdfunding platforms have developed as a novel way to generate funds for new businesses. In reality, new digital technologies have changed the nature of the uncertainty that exists in entrepreneurial processes and outcomes, as well as how to cope with it.

The Web as a medium allows for networked, creative thinking, and it invites the mind to travel down twisting roads to uncharted mental excursions (Bush, 1945). Take, for example, how text on the web can lead to endless browsing. Furthermore, the Web enables an ideal form of aggregation for a successful, wise crowd. Because excessive collaboration and communication among problem solvers can result in compromise or disaster (Surowiecki, 2004), allowing individuals to generate full unique ideas and putting them up for evaluation among their peers in the crowd is the key to aggregating rather than averaging thoughts. The audience can quickly sort through the terrible ideas to identify the excellent ones, which can be done with a simple

online voting scale (Brabham, 2009). The Web's speed, scope, asynchronous mode, anonymous mode and its capacity to transport all other forms of media material are also the ideal medium to facilitate creative engagement (Brabham, 2009). The Internet is an immediate platform where messages may flow so rapidly via its channels and hence share ideas that the medium effectively eliminates the time issue practically. In addition, the web reaches more or less worldwide or may be reached globally at least, which implies that individuals can communicate in various areas. The character of web is not only to erase time virtually, but also it operates to erase space. Carey (1989) first examined the cultural changes and the societal capacities of time-free and space-free communication technologies, finding that innovations, for example the telegraph, which carried out erasing time and space to make united nations in a shared cultural perspective.

Compared with easing the time restrictions by its speeds, the Web operates in an asynchronous mode as well. For example, online bulletin board systems and related technologies allow users to submit comments and views to a fictitious 'place' at one point in time, and other users can respond with those views at rather later periods in time (Brabham, 2009). The Web, like leaving and taking notes on a bulletin board in a market square, may create a continuous discussion amongst members of a community without requiring those people to be there at the same time (Ostwald, 2000). This capacity of web is already being achieved in some city planning programs, such as putting podcasts and meeting minutes on project planning Web sites takes use of the Web's asynchrony and virtual persistence. Especially the Web's asynchrony can be enhanced by combination of these project Web sites and online bulletin board systems (Brabham, 2009).

Gathering the individual thoughts of people in the crowd by pitting them against one another does not imply the elimination of qualitative input. Choices of plan are not made only on the basis of a simple majority (Brabham, 2009). They are involved with how populations give qualitative feedback on how they envision their future landscape. In a context of web, users provide qualitative feedback largely through online bulletin board systems and other asynchronous form to exchange information (Brabham, 2009). Theoretically, Individuals in the intelligent population should

integrate information of debate and sharing when they build a succession of unique solutions to make a contribution to the public. The sum of these individual thoughts is then referred to as wisdom of the crowd. The procedure is similar to peer review (Brabham, 2009). This is also in contrast to the deliberative democratic approach, which emphasises compromise and discussion in order to develop common answers.

Moreover, the Web is a completely anonymous tool. Users can create their own online identities primarily on their own behalf, or they might opt to stay fully anonymous. People may create whole new personalities or build entirely different bodily characters to reflect themselves and their hobbies in a chat room or bulletin board system, for instance. In accordance with a literature, people's body language, location in a room, and small chat all help to "script" the subsequent power dynamics of a team meeting (Campbell & Marshall, 2000). People in an internet context are free to participate in online conversations and idea validation without the constraints of nonverbal politics (Brabham, 2009). That's not to mention the very real power imbalances at work with embodied aspects of variety (such as race, gender, (dis)ability), inequalities backed up by empirical studies in communication, sociology, health, psychology, and other fields (Brabham, 2009). By providing users with the option of anonymity in participation mechanisms, the Web can help people break free from the restrictions of identity politics and performative posturing (Sotarauta, 2001).

Finally, the Web is an interactive medium and a point of integration where all previous types of media may be used. The Web fosters continual creativity of novel innovations rather than the mere distribution style of information endemic to 'older' mediums (such as TV, radio, newspapers) and much policy (Brabham, 2009). As contrast to a purely top-down approach, information on the Web is created through a combination of bottom-up (content from the people) and top-down (content from policymakers, corporations, and media organisations) procedures (Brabham, 2009). It appears that public involvement programmes integrated into urban development procedures attempt to accomplish this meeting in the middle of ideas from the "bottom" and "top". However, one of deliberative democracy's flaws is that its stiff

structure for thought exchange may be out of date (Brabham, 2009). According to others, the Web has numerous flaws, including the ways where it could separate people from neighbours' interpersonal relationships and the ways in which certain corporations aim to present Web users as profit-seeking consumers (Bugeja, 2005; Putnam, 2000). Web users seem to become extremely proficient at sharing their own views, unearthing hidden material, and recreating prior ideas and content into new, inventive forms in a 'Web 2.0' age of increasing content production. Web users have the capacity to solve problems and be innovative. I should use the Internet to alter the public engagement method and broaden people limited definition of how citizens engage in democracy today (Mack, 2004).

Applying Web technologies to the context of entrepreneurship, entrepreneurial activities can be developed via crowdfunding in an online environment. Using social-psychological rewards, crowdfunding enables businesses to build, grow, and maintain an online reputation and network (Lehner, 2013). By recruiting investors, online reputation and brand communities boost entrepreneurial activity in Internet-enabled marketplaces (Reuber & Fischer, 2011). In an online context, the firm's reputation with customers is co-created with validity. Market validity may be conferred through online brand communities, encouraging investors and customers to participate with a new venture. Even if project founders have assets and creative ideas, they will be unable to grow manufacturing fast via investment if they do not have access to an acceptable platform or network. For individuals such as celebrities who had ready access to a wider "crowd" from which to collect donations, crowdfunding has become an effective financing method (J. C. Short et al., 2017). On the other hand, for the average project founder without quick access to a wider "crowd", the time and opportunity cost of collecting small amounts of money from large numbers of investors was a substantial barrier to crowdfunding. The Internet, online payment methods, and crowdfunding platforms removed this barrier, democratising access to masses of people who may be keen to support the next great idea. As a result, the term "internet" or "online" plays an essential part in defining crowdfunding.

### 2.1.3 Utilising the Concept of Innovation

The concept of innovation has been included in the definition of crowdfunding by previous researchers, such as Fiedler & Horsch (2014) who stated that the firms exhibit their innovative business idea on the crowdfunding. Stanko & Henard (2017) used the words of 'a popular vehicle for assisting innovating project founders' and Hemer & Innovationsforschung (2011) stated that crowdfunding is a form of innovation funding of micropayments.

The research mentioned above aimed to learn more about how crowdfunding influences innovation and how to define crowdfunding. Various enthusiast parties have used crowdfunding to discover methods to bring their hobbies or interests together (Mollick & Robb, 2016). This may be seen in the millions of monies generated to support fan-made Star Trek movies, or in the enormous and inventive efforts of 3-D printing fans to advance the state of the art in their area through crowdfunding campaigns. Crowdfunding enhances the degree of creativity within a small firm by allowing project founders to generate ideas and get feedback from investors. These impact mechanisms, for example, play a significant role in building the conduit between innovation and entrepreneurial businesses, according to a research study (Hervé & Schwienbacher, 2018).

Crowdfunding may be used as a conduit to allow the general public to offer feedback to the project founder (Stanko & Henard, 2017). Crowds, for example, can offer suggestions for product development both before and after the campaign, as well as important information about future demand for the new product. In this way, crowdfunding allows the general public to participate in the creative process. Investors, for example, might learn through their interactions with peers and project founders. As a result, project founders may achieve a variety of objectives, such as product testing in order to grow their brand and creating a loyal client base (Cumming et al., 2012; Estrin et al., 2018; Ordanini, Miceli, Pizzeti, et al., 2011). Furthermore, connection of information that develops when network participants observe other investors' investment decisions may enable the rapid and cost-free transmission of knowledge from customers to project founders (Vismara, 2019). As

a result, project founders tapped into customer knowledge to create new goods or build ground-breaking technology. When it comes to solving issues or making choices, the wisdom-of-crowd principle argues that the crowd has greater wisdom than an individual, even an expert (Polzin et al., 2018; Schwienbacher & Larralde, 2010). Because the community may provide immediate input on the product, it may be more beneficial to the company than expert investors' business development advice. As a result, crowds may contribute novel ideas and feedback, as well as a new source of funding for innovation-driven enterprises.

Finally, crowdfunding has the ability to affect prospects for company growth and development, with a widespread opinion that crowdfunding may help small businesses in these areas. There are a variety of non-financial benefits to SMEs who use crowdfunding, the most important of which is the contribution to incremental innovation, which supports small business growth (Stanko & Henard, 2016). As a result, crowdfunding is fascinating not only because of the current innovation it enables, but also because it allows me to contemplate how a more social, linked world may drive future innovation.

#### 2.1.4 A Group of Individuals- The Power of The Crowd

Another term which has been utilised across multiple definitions is "the crowd". Mach et al. (2014) stated that the fund in crowdfunding is gathered from a group of individuals, or "the crowd". N. Scholz (2015) demonstrated that firms get resources from the crowd. And Belleflamme et al. (2010) also stated firms raising the money from a very small group of sophisticated investors in the crowdfunding.

Crowdfunding, according to Luke Lang, co-founder of the crowdfunding website Crowdcube in the United Kingdom, is a method to "democratise investing." This concept of letting anybody with cash to participate in start-ups appeals to lower net worth investors, as these investments are traditionally exclusively available to the rich (Mollick & Robb, 2016). Through the crowd, crowdfunding has the ability not just to democratise access to finance, but also to generate whole new kinds of engagement between project creators, project founders, their supporters and



investors. To get the most out of crowdfunding, the author must consider not just the capital involved, but also the crowd. Crowdfunding, at its best, is about making a dream come true for both the community and the creative. The most successful crowdfunding projects, such as the Oculus Rift or the Pebble Smartwatch, recognised this. Crowdfunding, by bringing together the public, money, and open conversation, may do more than simply assist get a project funded; it can also help establish a solid community around a product. A decade of research has shown that vibrant communities are essential for capturing the best ideas from the crowd, improving existing ideas, and developing game-changing innovations (Bruton et al., 2015; Mach et al., 2014; Mollick & Robb, 2016).

Moreover, the Crowd is made up of people who are linked to one another over the Internet. The Crowd's impact is derived entirely from the aggregate and has transformed the fundamental structures of all civilisations linked to the Internet (Burkett, 2011). The Crowd has established a completely new paradigm through which to see the world in a very short amount of time: it has overthrown repressive regimes, created new businesses, and altered the social and economic channels through their connection. Because Internet access is frequently associated with economic growth, the Crowd will continue to increase at an astonishing rate (Fink, 2012). Between 2000 and 2011, the global Internet user base increased by more than 500% (Stats, 2013). The number of people having Internet connection worldwide was recently projected to be 2.4 billion, or about one-third of the world's population (Stats, 2013). Asia is expected to witness the fastest rise in Internet usage, as India and China work to improve their countries' connection. In China, for example, the number of Internet users increased from 22.5 million in 2000 to 420 million in 2010 (Stats, 2013). In fact, not all of those people have resources to contribute, thus they cannot all be called part of the Crowd, however, when the money is available, each individual has the opportunity to contribute to an entrepreneurial investment in their local community or throughout the world. The worldwide Crowd has evolved into a dominating commercial force, fuelling remarkable economic growth via the Internet (Fink, 2012). Businesses like Amazon, eBay, Craigslist, and Alibaba all rely on the Crowd for revenue. The burgeoning "app" business, which comprises the many apps

available to customers via smartphones, most notably the iPhone, is heavily reliant on the Crowd for income in many ways. In only five years, as iPhone usage has expanded throughout the world, the business has evolved into a multibillion-dollar industry that employs nearly half a million people and is anticipated to reach a market value of \$38 billion by 2015 (Mandel, 2017). The Internet is estimated to be the world's fifth largest economy, trailing only the United States, China, India, and Japan (Fink, 2012). The Crowd's growth potential is immense, and its consequent effect on the status quo cannot be disregarded, with greater Internet access and an expected rise in access to finance for those new users.

The phrase "crowd" may have an essential role in the definition. Crowdfunding is defined by the term "crowd," and the power of "crowd" may be strengthened through internet technology. The internet's technology is also a significant component in crowdfunding. The author will go through this in the next section. The inclusion of the crowd word, which may therefore be taken to convey the foundation of crowdfunding, makes it much easier to establish a wide description. As a result, the addition of a crowd word is seen to aid in the development of a comprehensive definition of crowdfunding.

#### 2.1.5 The Small Amount of Funding

One feature used to define crowdfunding is gather the small amount of funding.

Thies et al. (2019) stated that crowdfunding collected small amounts of money from a large group of individuals. Voorbraak et al. (2011) also made a similar statement that crowdfunding is to obtain funding from a large group of people where each individual provides a small amount. Belleflamme et al. (2014) stated that each individual provides a very small amount, rather than soliciting a small group of sophisticated investors in crowdfunding.

It is well acknowledged that young businesses have difficulty acquiring external funding during their early stages, whether through bank loans or equity capital (Cosh et al., 2009). New enterprises fail at an astonishingly high rate throughout their infancy. Many entrepreneurial initiatives go unfunded, partially due to a lack of

sufficient value to be promised to financial investors and partly due to failed attempts to persuade investors (Casamatta & Haritchabalet, 2014). Thus, investors often offer a small amount of capital for new companies in their early stages. When a new business achieves a milestone, such as a breakthrough in technology, investors will provide more cash to the new ventures.

In the pre-order model of crowdfunding, project founders encourage consumers to pre-purchase a product in order to raise the funds needed to begin manufacturing. There is a balance between taking greater risks and gaining access to innovation in crowdfunding new products. Investors provide a small amount of money and take a small risk in exchange for early access to a new product. For individuals in the 'small' investment amount sector of crowdfunding, perceived risk has a positive impact on funding intention, with the larger the perceived risk, the more it stimulates investors' funding intention (Zhao, Zhang, et al., 2017). Investors who start with a little amount of money can take advantage of the high potential future return. EBC, for example, is the low-cost issuance of shares through the internet, in which investors may purchase stock in firms for a modest amount of money in exchange for a claim on the company's future cash flow (Erro-Garcés & Urien, 2021). Based on the characteristics of small amount of funding above, it can be utilised in definition of crowdfunding.

#### 2.1.6 Participants in Crowdfunding-Investors, Project Founders and Platforms

One of the key characteristics utilised within existing crowdfunding definitions is the concept that crowdfunding involves different groups of participants when funds are raised, as shown by the following non-exhaustive list of examples:

##### ***Investors***

“The basic idea is always the same: instead of raising the money from a very small group of sophisticated investors, project founders try to obtain it from a large audience, where each individual will provide a very small amount” (Belleflamme et al., 2010, p. 1).

“For technology project founders, crowdfunding platforms can be appealing as a possible source of funding for product development. But crowdfunding investors are also important for the feedback, ideas, and word of mouth they can provide” (Stanko & Henard, 2016, p. 14).

As a most important part of crowdfunding, Investors are critical to evaluating the potential innovative impacts of crowdfunding. Crowdfunding gives early-stage start-ups access to financing while also allowing them to interact with a huge number of people in previously unattainable ways. Investors in crowdfunding projects not only provide money, but also their thoughts.

Investors frequently like to participate in product creation together with an innovative project founder, as this experience is generally seen as a gratifying aspect of the process (Agrawal et al., 2014; Gerber et al., 2012). This influx of outsider perspectives into the product development process has the potential to have a significant influence on innovation initiatives. Investors make a significant contribution to knowledge development through their cooperation, in addition to their financial support. Crowdfunding, in knowledge creation theory terms, constantly express and amplify ideas created by individuals such as investors (McFadyen & Cannella Jr, 2004). Understanding later innovation requires understanding knowledge creation through interactions with investors and other external stakeholders. Investors, in particular, are often early adopters who provide advice, design suggestions, and even criticism throughout the product development process. Investors have been invited to participate actively in design decisions in some situations (Lewis-Kraus, 2016). Thus, investors could voice divergent or creative ideas that might lead to a heightened focus on radical innovation. Interactions with people during product creation should have a beneficial impact, according to innovation studies (Spaeth et al., 2010). However, interactions with investors have the potential to be detrimental in the long run (Nahapiet & Ghoshal, 1998). Trying to connect with so many opinionated investors may be difficult for small start-ups. Attempting to integrate their feedback may stifle product development or redirect inventive project founders' attention away from their primary goals. Relatedly, a research shows that short-term expenses are greatly increased by open innovation activities (Faems et al., 2010). It's also possible that investors may push innovating project founders to create a product that conforms to their preconceived notions, limiting risk taking and serving as a sort of inertia, forcing the innovating project

founder to conform to present market offers (Moreau et al., 2001). Thus, investors' views may persuade project founders to produce goods that are more similar to what is presently on the market, effectively deterring risk-taking and slowing innovation.

Increasing the number of investors by adding different partners directly improves the quantity of information, resources, and ideas available to innovative project founders from a standpoint in knowledge creation theory (McFadyen & Cannella Jr, 2004). Theoretically, ideas from those investors should have positive effects for innovation and knowledge creation as these ideas are developed and magnified via the new venture's product development process. However, the study of knowledge creation theory shows that constant engagement with certain persons leads to knowledge pools that are becoming increasingly similar (Coleman, 1988). Over time, this results in less dramatic innovation. Thus, the ability of investors to both support and impede the creative process raises significant unresolved issues about crowdfunding.

Moreover, the actual value of crowdfunding comes from the opportunity to learn from investors and utilise them as advocates for the crowdfunded product. Aside from providing feedback, investors also serve as product advocates, promoting word of mouth about the product through both conventional and modern channels such as social media (J. Scholz & Smith, 2019). Early user word of mouth has long been believed to be highly important in determining product launch success since it minimises uncertainty for later users (Rogers et al., 2005). Because crowdfunded items are not yet commercially available through traditional methods, crowdfunding investors might be considered a subset of early users of new technologies. Being earlier to access new technologies than other groups, early users with word of mouth awareness can spread these technologies to potential later product users (Kozinets et al., 2010).

### ***Project founders***

“With crowdfunding, an project founder raises external financing from a large audience (the “crowd”), in which each individual provides a very small amount,

instead of soliciting a small group of sophisticated investors” (Belleflamme et al., 2014, p. 585).

Crowdfunding provides an interesting opportunity for managers and executives to explore the innovation process at the grassroots level. Project founders of new ventures may gain a better understanding of customer demand, user-driven innovations, and the young organisations that are attempting to launch new concepts by analysing crowdfunding campaigns. Furthermore, crowdfunding allows bigger corporations to get involved early in the development of a new venture, whether through resources, collaborations, or other means. As a result, there is more transparency for all parties engaged in the invention and commercialisation process, which can assist project founders in the management of their new ventures.

### ***Platforms***

“Crowdfunding can be defined as the collection of funds, usually through a web platform, from a large pool of investors to fund an initiative” (Wilson & Testoni, 2014, p. 2).

The democratisation of invention, entrepreneurship, and entrepreneurial finance can be assisted by a crowdfunding platform. A crowdfunding platform offers chances for new enterprises and innovations, as well as a new wave of investors, by offering a voice to those who would otherwise never have an opportunity to seek capital. Furthermore, by crowding the individuals in project funding and support, these crowdfunding platforms can eliminate the need for inefficient (and sometimes prejudiced) intermediaries.

Across these definitions, there is a continuous characteristic of a large number of investors, project founders and a platform, being keys to the crowdfunding process. The author considers that a large number of crowdfunding participants can refer to a scenario. It can refer to regardless of whether or not a project is funded by investors, an project founder's project must have the potential to be supported by a significant number of investors in a platform.

### 2.1.7 Summary

Incorporating the key component of crowdfunding that has been covered in previous sections, crowdfunding may be broadly defined by taking into account the involvement of three parties. The project founders are main practitioner in crowdfunding, who can be an individual or group to raise capital for its new ventures, and new ideas by a platform. The investors are main capital sources who offer capital to support the project founders via the platform. The platforms are the providers of connection between the investors and the project founders. Each platform has the ability to create its own regulations for both the investors and the project founders and does not reflect any party's interests and is not involved in the investment decision of investors. The relationship between these three parties may be used to establish a definition of crowdfunding. Fundamentally, the base for crowdfunding is for investors to be able to provide capital to project founders via a crowdfunding platform. As a result, this may be broadly defined as follows:

Crowdfunding is the involvement of three parties in raising capital: project founders, investors, and platforms. Project founders seek capital for a project, investors contribute the capital, and the platform serves as an intermediate between project founders and investors without reflecting any party's interests.

Under this definition, project founders can be anyone who wants to invest a project for whatever reason. Investors can be normal investors or professional investors. The platforms can have an online setting or offline setting and the important point is without reflecting any party's interests between investors and project founders. This allows for a clear distinction between crowdfunding and conventional finance.

## 2.2 The Landscape of Crowdfunding

### 2.2.1 The Difference with Other Entrepreneurial Finance

This section is dedicated to discussing the difference between business angel, venture capital and crowdfunding. It aims to provide an understanding of financial

mechanism in terms of development of crowdfunding market by comparing the characteristics of business angel and venture capital. The author will outline the characteristics of angel capital and venture capital, respectively, and discuss their key funding processes. Through identifying the similarity and distinction with traditional entrepreneurial finance (e.g., angel capital and venture capital), it can assist to study the origin, driver and system of crowdfunding.

When fledgling ventures have initial prototypes and/or a soaring sale volume and/or a good market prospect, risk capitals, such as venture capital and angel capital, are the next financial resources for them (Croce et al., 2013). Venture capitalists screen firms to invest according to their predicted return and current portfolio (Baum & Silverman, 2004). If some ventures are targets for venture capitalists, they will locate their targeted ventures via network linkages or direct contact in the start of venture capital cycle (Gompers & Lerner, 2004). Apart from providing the financial capital for ventures, venture capital supporting in management of ventures is an additional advantage of their engagement, which is embedded along with “smart money” financing in ventures (Davila et al., 2003). Following investment, venture capitalists make an active contribution to the shape of targeted firms, the enhancement of their reputation from endorsement of venture capital (D. H. Hsu, 2004) the provision of monitoring and governance for firms (Gompers & Lerner, 2004), the extra supply of other resources rather than finance into firms (Baum & Silverman, 2004). As venture capitalists supply many additional social capitals and networks, they play a critical role in the innovation process of ventures (Ferrary & Granovetter, 2009).

In addition to the benefits of venture capital firms providing financial funding to new ventures for their growth in the seed and early stage, they need to deal with a risk of high information asymmetries with these new ventures as well as uncertainties in survival and future development for these ventures (Colombo et al., 2016; Knockaert & Vanacker, 2013). In order to mitigate the risk of information asymmetries and to increase the transparency of information, venture capitalists collect threads of information which can help them in whether to accept or reject an investment proposal. Thus, it can reduce the investment risk for venture capitalists to overcome



adverse selection in some way. In the given scenario, signalling theory may be applied by investors analysing and accumulating signals, which can assist to reduce information asymmetries before making an investment decision (Spence, 1973, 1978). Although scholars have worked on identifying different types of signals, such as the start-ups' human capital (Colombo & Grilli, 2010), their patents (Hoenig & Henkel, 2015; D. H. Hsu & Ziedonis, 2008), or a product-oriented business model (Guo & Jiang, 2013; Munari & Toschi, 2011), signals generated in the context of crowdfunding as informational cue have not yet been thoroughly evaluated. Thus, this thesis will discuss in depth which signals can have influence on its success. In crowdfunding there also exists a problem of information asymmetries during campaigns and the author will discuss this in the next chapter. Moreover, crowdfunding can attract venture capitalists' attention. One prominent example is Monzo, a crowdfunded digital banking start-up that raised a record series late round headed by a group of venture capitals with £113m investment after successfully raising £20m in the Crowdcube campaign. This example demonstrates how the process of investment decision-making of venture capital may be impacted by the decisions of a large number of people ("the crowd") in order to determine if the ventures and their products or services are worth investing in (Mollick & Nanda, 2016; Surowiecki, 2005).

Compared with venture capital, angel capital involves in new ventures in more early stage. Angel capital is usually involved with the group of high net-worth individuals who are certified investors investing their private wealth, often ranging from USD 10,000 to USD 250,000, for their own reasons into a venture that is, typically, local, unlisted, and does not have a familial link to the angel capital (Agrawal et al., 2014). Aside from providing financial resources, Business angels also perform a variety of important functions. Angel capital is similar with institutional investors, such as venture capitalists. They also give strategic input, monitoring and oversight (albeit in a less formal manner than venture capital) and provide additional accesses to their professional network for new ventures. These business angels frequently serve on the boards of directors or serve as advisers to the enterprises (Hindle & Lee, 2002; Politis, 2008). Furthermore, business angels retain constant contact with the

enterprise to both support and protect their investments. Business angels may have previously been project founders or have had an experience in management on the relative industry (Bonini et al., 2018; Kelly & Hay, 2003), and they provide their contacts as well as entrepreneurial and management know-how (Bonini et al., 2018; Politis, 2008). Angel investors, on the other hand, are discovered to be a highly diversified community that pursues a variety of procedures when getting involved in new ventures (Bonini et al., 2018; Croce et al., 2017). To date, the market of angel capital has seen less professional standardisation than the industry of venture capital to date.

The quantity of financing required by new start-ups in crowdfunding campaigns, more likely resembles the one offered by angel capital and venture capital in the stage of seed, or early, and investors are supplied either rewards (e.g., the product that the project founders will produce if there is success in fundraising campaign or financial compensations, such as revenue/profit-sharing arrangements) or equity shares. However, there is a concern that venture capital and angel capital provides the vast majority of the seed funding to bring ideas into the mass production and put into market. The Centre for Talent Innovation, a New York-based think tank led by Sylvia Ann Hewlett, discovered that having something intrinsically in common with the fundraiser, decision maker, or investor makes a huge difference in fundraising performance (Hewlett et al., 2013). According to the results of that survey, over half of decision makers do not value ideas that they do not personally perceive a need for, even if data shows that it is a solid and marketable concept (Hewlett et al., 2013). A lack of variety in funding providers is problematic on its own, but it becomes even more so if it leads to fail in commercialisation of outstanding ideas from non-traditional sources (Mollick & Robb, 2016). Thus, crowdfunding, in this context, provides something that conventional funding channels do not: a vehicle to democratise access to the finance required to commercialise and share creativity.

Furthermore, small ventures and start-ups were formerly confined to seeking funding from banks and venture capitals, but the Internet today allows anybody with an idea and an Internet connection (Surowiecki, 2004) to obtain financing from a

huge number of potential investors through dedicated crowdfunding platforms. Increasing the rate of innovation and market acceptance makes dispersed online funding more appealing to new companies (Wenzlaff et al., 2012). Because online social networking began as a consumer-driven service, project founders are already using it in formal and informal networks to raise funds.

### ***Equity-based Crowdfunding, Venture capital and Private equity***

Crowdfunding is filling the growing gap in traditional financial sources for project founders. Additionally, new ventures may require a modest tranche of financing in the form of crowdfunding between seed and the first series to address shortages of funds or until the current series crunch subsides, and liquidity improves (Tomczak & Brem, 2013). Firms in Crowdfunding is mainly on the seed or early stage, which match with the requirement of selecting targets of angel capital and venture capital (see Figure 2). Thus, the financing stage in crowdfunding overlaps with the stage of angel capital and venture capital. Thus, crowdfunding makes it possible for those with limited access to traditional sources of financial backing, such as banks or venture capitalists, to acquire financial resources necessary to pursue their projects. Through online transactions, crowdfunding also gives people with disposable income a new way to give to others and “invest” in projects that might not happen without their financial support.

Thus, all types of crowdfunding (donation, leading, reward and equity) can be used by the firms in the seed or early stage (Tomczak & Brem, 2013). Moreover, venture capital and private equity are both forms of equity offering, and EBC is similar to each of them. Notably, EBC changes the dispersion of ownership like that of traditional venture investing. EBC shifts power to the project founder by replacing a handful of larger outside investors with a multitude of many smaller ones (Drover, Busenitz, et al., 2017).

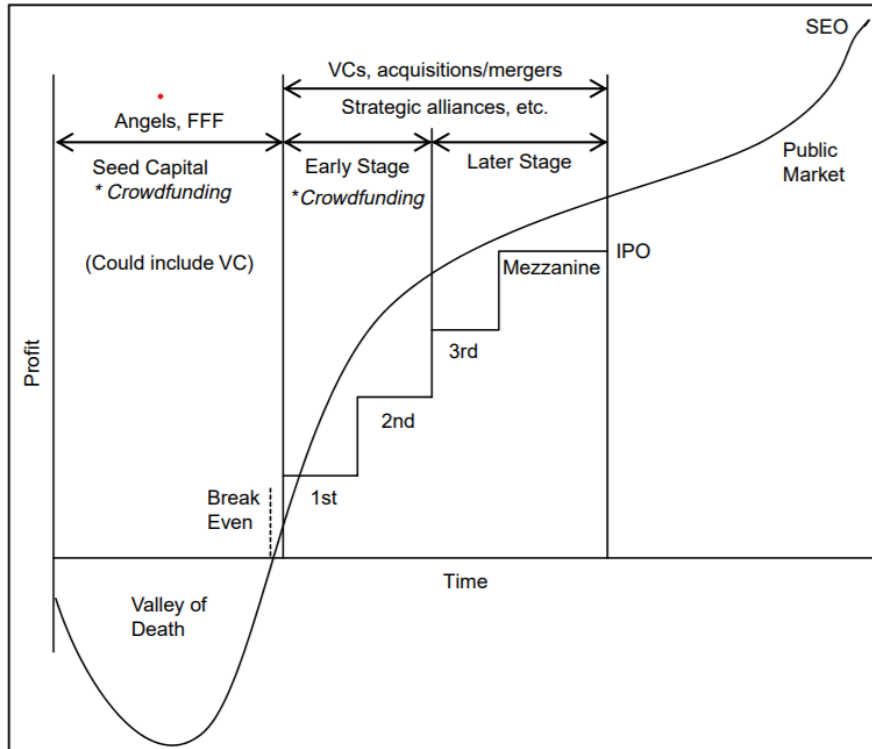


Figure 2 Stages of entrepreneurial firm development. Source: (Tomczak & Brem, 2013)

Crowdcube is the one of biggest UK EBC platforms and its creator, Luke Lang, defined crowdfunding being a route of democratization of Investment. The concept that every person with capital can participate in new ventures is attractive for the investors who have less net worth since these investments are normally only accessible mainly to millionaires or billionaires. Offering an opportunity of contributing to everyone who has access to a computer and capital attracts all investors in the world to the crowdfunding investment business (Fink, 2012). The crowdfunding interest may be comparable in some respects to that of the attractiveness of the single investor in the IPO market, which generally prevents individual investors from investing. Investors can regard an IPO as an exciting new idea of being part and want to see the growth and transmutation of new ventures as well as people may be attracted similarly to enterprise firms in the crowdfunding business (Fink, 2012).

Moreover, crowdfunding allows those who do not have access to traditional financial support, such as banks or venture capitals, to obtain the funds they need to

commercialise their ideas and put into marketplace. Crowdfunding also enables people with discretionary income with a new option to donate to others and invest in new ventures via web platform that would not be possible without their financial assistance. According to the developer of an instructional toy: “You have 50,000 micro-investors instead of one or two angel investors or manufacturers.” (Frydrych et al., 2014)

Some project founders are also attracted by the probability of swiftly obtaining capital, seeing crowdsourcing as less time demanding than other traditional fundraising, such as hosting a fundraising event to raising capital for a follow-on fund. According to a choreographer who collected roughly over \$15,000 on a crowdfunding campaign, “A fundraiser event involves an auction, entertainment, food, a bar, renting the location, decorating, and sending out invites. All of this might easily take over 10 days. The crowdfunding platform can last from 2 days to 4 days. There's no way you could pull out an event in that amount of time” (Frydrych et al., 2014). Other fund-raising methods, according to a game developer, needed complex applications and, if granted, months of waiting before literally obtaining capital. He explained why he chose to crowdfund since receiving the funds was more immediate: “I wanted to generate a lot of money quickly, and I did not have enough time to contact an organization, or a grant, or anything. They told me I had to fill out several documents. It was simply so complicated; I decided to directly put the products into marketplace” (Frydrych et al., 2014).

Project founders are encouraged to join in crowdfunding as they may request and receive financial assistance directly from a large number of people in different network connections. Project founders consider the technique as efficient and effective, given their limited time, and fair to everyone in their network who could choose to invest or not give. Importantly, the web technologies, online payment methods and crowdfunding sites, have helped to facilitate this process. Because of the benefits mentioned above, Crowdfunding is growing in popularity as a new approach of a source of investment, seed funding, and start-up financing. With access to angel financing dwindling since the 2008 financial crisis, crowdfunding is critical

for start-ups raising seed funds (Tomczak & Brem, 2013). Crowdfunding may be used to supplement or replace traditional seed financing sources in the early stage of new start-ups.

### 2.2.2 Main Goal in Crowdfunding

In contrast to many other kinds of entrepreneurial financing, creators that utilise crowdfunding have a vast range of goals. Some crowdfunded projects aim to gather small amount of funds, generally around \$1000, to launch a single time activity (such as an event) (Mollick, 2014). Friends and relatives are frequently used to offer funds in these situations. Crowdfunding, on the other hand, looks to be becoming an useful method of entrepreneurial initial funding (Schwienbacher & Larralde, 2010), enabling project founders to get the initial capital necessary to launch their new enterprise (Mollick, 2014). For example, forty-five of the fifty most supported projects on Kickstarter, the leading crowdfunding site, have evolved into ongoing entrepreneurial businesses. However, it is not certain how far crowdfunding will eventually replace traditional formal venture financing, particularly while laws on EBC are changing (Hornuf & Schwienbacher, 2017), and new ventures are usually provided with investments during the early stage rather than only financing, including guidance, management and prestige (Gompers, 1996; Petty & Gruber, 2011) Thus a vast number of traditional and non-traditional project founders may be supported through crowdfunding. However, even in a business setting, money must not be the sole goal of a crowdfunding campaign. Other goals in crowdfunding have been used by founders, such as display for a proposed product, openness of new ventures, market research of new products, marketing strategy and pre-sale of new product. These goals will be discussed in the next section.

### 2.2.3 Features of Crowdfunding

Another distinctive feature of this new funding method is that crowdfunding platforms supply all of the necessary tools for investment transactions to take place, such as legal foundation, pre-selection, and the function to conduct financial transactions, among other things (Ahlers et al., 2015). They have the ability not just

to assist project founders in meeting their funding requirements, which is similar to micro and social finance (Harms, 2007), but also to introduce new goods and execute new marketing campaigns (Belleflamme et al., 2014; Mollick, 2014). In this regard, crowdfunding is inspired by social networking, in which customers easily engage in online community to exchange information and make recommendations regarding new ventures and/or brands (Ordanini, Miceli, Pizzeti, et al., 2011). Furthermore, when crowdfunding is utilised to be a tool to indicate demand for a proposed product, successful efforts offer messages to venture capitalists of a potential excellent long-term investment, perhaps leading to additional future funding for creators (Mollick, 2014). In this section, the author will discuss other features of crowdfunding apart from financial transaction.

#### 2.2.3.1 Display of Project Founders' Products

Numerous designers have been inspired to employ crowdfunding since the popular press might attract notice from people (Gerber & Hui, 2013). An anthropologist describes how she has been inspired to make more aware of her study outside her colleagues through operating a crowdfunding campaign: "My research is reported by CNN, and it was featured by Forbes. And then all went insane thereafter. These are things which typically don't happen if you only have a funding proposal, or if you only have a report in the journal, you know, no one is reading" (Gerber et al., 2012). Crowdfunding enables individuals to become aware of persons with whom they are not directly linked by reaching the potential customer via news media. These persons can contact new groups with whom the founder is not associated directly (Granovetter, 1973). The founders were suggested to use the news media to contact a variety of people to broaden their reach (Burt, 1992). An author who uploaded his proposal of a nonfiction novel on a crowdsourcing platform said: "I was extremely interested in using crowdfunding to share my project with another audience. Most investors do not like my closest mates. It's like on my universe's outer rings" (Gerber et al., 2012). Founders are driven to increase work visibility outside the tight social network. Creators may promote their work to the public via social media and popular medium using crowdfunding.

### 2.2.3.2 Openness

Any ventures with openness and innovation could obtain inspiration from both internal and external sources (Stanko & Henard, 2016). All techniques aimed at obtaining inspirations and knowledge from sources outside the new ventures are included in openness (Katila & Ahuja, 2002). These techniques discover information among external persons and organisations, expose the new ventures to new ideas and opportunities, and supplement the innovative firm's present knowledge and understanding (Salge et al., 2013). "Not all of the brightest minds serve for us" is a frequent definition for open innovation (Chesbrough, 2003). Interactions with persons outside the company frequently generate knowledge, creativity, and innovation. In agreement with this, a company cannot innovate by itself -"innovate in isolation" (Dahlander & Gann, 2010).

This idea is shown by openness, in which companies solicit input from consumers (including crowdfunding supporters), contractors, colleges, professional groups, rivals, and others to help in their product development (Chesbrough, 2003). In general, the more open that new ventures are to external novel product development suggestions, the better their product's future market performance (Stanko & Henard, 2016). The process by which new ventures actively explore inspirations from external groups is believed to be a significant driver of key objectives for project founders in crowdfunding.

Existing research on openness has found it useful to conceive of openness in two dimensions: depth and breadth (Drechsler & Natter, 2012; Laursen & Salter, 2006). The depth of openness is defined as the degree to which companies rely intensively on external sources of creative ideas (Laursen & Salter, 2006) as well as being related to exploitation and efficiency (March, 1991). In general, openness of depth indicates that the company is utilising existing information and relationships to develop efficiency and routinization through the exploration of established knowledge sources to produce novel goods (Katila & Ahuja, 2002). From the perspective of knowledge creation theory, deeply enhancing present knowledge capacity narrows the scope and direction of future corporate innovation initiatives, because



routinization and entrenched rigidities limit the generation of new knowledge (Nonaka et al., 2000). The usage of similar information sources on a regular basis will most likely result in familiar associations based on respective skills, where neither party has an incentive to broaden their collection of technological capabilities or those focused on rapidly getting items to commercialisation (Rothaermel & Deeds, 2004).

The breadth of openness is defined as the degree to which companies rely extensively on external sources of creative ideas in its inventive operations (Laursen & Salter, 2006), as well as its relation to the quest of exploration and diversity of knowledge (Chiang & Hung, 2010; Katila & Ahuja, 2002). From the perspective of knowledge creation theory, openness breadth enables innovative project founders to create their own pool of unique information since they are exposed to more varied experiences and perspectives from a wide range of supporters (Henard & McFadyen, 2008). In reality, openness of breadth increases the ability of project founder's absorption (Cohen & Levinthal, 1990) and promotes more inventive, comprehensive thinking. Openness of breadth enables a forward-thinking company to extend its knowledge base beyond its current bounds, allowing for substantial deviations through the evaluation of different information sources (Katila & Ahuja, 2002). Openness of Breadth also prevents the formation of fundamental rigidities inside the company, leading for a more adaptive innovation company (Leonard-Barton, 1992).

Both depth and breadth of openness being open to outside ideas may promote an environment of continual ideation and a general openness to examine potentially valuable ideas, regardless of whence they come (Stanko & Henard, 2016). Because crowdfunding is a medium and supporters can frequently provide their own thoughts to new ventures, crowdfunding may be seen as an expression of the open innovation place. Moreover, as openness improves a product's overall market performance, project founders would do well to adopt the open innovation approach (Stanko & Henard, 2016). Thus, openness - the process by which new ventures actively explore inspirations from external groups - is believed to be a significant driver of key objectives for project founders in crowdfunding.

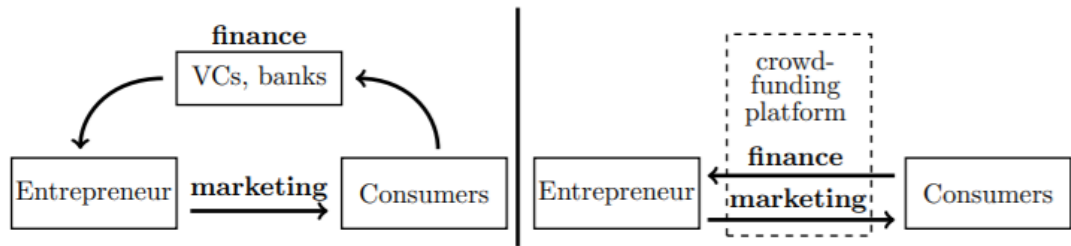


Figure 3 Traditional entrepreneurial financing (left) vs. crowdfunding (right) Source: (Strausz, 2015)

### 2.2.3.3 Marketing Tool

Beside the function of displaying products, crowdfunding also is a medium to develop a marketing plan, to gather a group of project's supporters, to receive the feedback of products and to promote a new product. The ostensible objective of all crowdfunding projects is to finance capital. As essential as raising capital, marketing is important for products. Crowdfunding campaigns has revealed that the most significant advantages are not purely pecuniary in nature (Stanko & Henard, 2016). In this section, the author will discuss using crowdfunding as a marketing tool.

#### **Market research**

Crowdfunding can be used to gather the projects' supporters and to examine the quality of creative ideas as a market research technique, creating interest in new projects in the early stage of development. Due to the fast, easy, and not geographically limited access to capital, the rapid exchange of information with potential investors allows for an initial testing of business ideas (Mollick, 2014). In this regard, successfully funded or even overfunded projects may serve as acceptance tests of potential products and value propositions. As potential customers do have to invest their money, crowdfunding might be more apt to elicit the true beliefs regarding a product or a service than rating scale-based product evaluations and other crowdsourcing approaches (Riedl et al., 2013).

According to the researchers, "from a marketing standpoint, crowdfunding may be utilised as a method of evaluating demand. Project founders may utilise crowdfunding platforms to do market research for free" (Sayedi & Baghaie, 2017).

Crowdfunding campaigns can give a platform for supporters to provide crucial comments and suggestions to the campaign's creators. The number of investors attracted is a good indicator of a product's future market performance. Importantly, the number of investors outperforms the quantity of funds financed as a predictor of market performance (Moissejev, 2013). In reality, the amount of funds raised via crowdfunding is relatively useless in terms of predicting the product's ultimate market performance. The number of updates to investors Campaigns that frequently update their investors participate actively in the innovation process, rather than passively monitoring it (Stanko & Henard, 2016). Usually, the crowdfunding creators would also send ideas to investors in order to get feedback. One of the Kickstarter founders provided an update on this: "give an easy avenue to brag about successes, which may be extremely addicting if you continue to receive strong client feedback. There is greater incentive to develop but, more significantly, it is simpler to innovate since ideas may be bounced off future consumers" (Stanko & Henard, 2016). More updates result in more input and interactions with supporters, which leads to a stronger emphasis on radical product innovation in future efforts (Stanko & Henard, 2016). Press attention also potentially follows crowdfunding campaigns, which can be beneficial to founders (Mollick, 2014). Thus, the greater the number of investors that are attracted, the higher the quality of creative ideas projects have.

Moreover, the long-term connection contrasts with the short-term connection that happens in many online financial transactions, such as purchasing goods on Amazon.com. On the other hand, this demand for social interaction and peer relationship is shared by many online groups that are not concentrated on money transactions, such as online discussion forums (Kraut & Resnick, 2011). Crowdfunding campaigns can combine them. Crowdfunding platforms, thus, make it simple for project founders and a big group of individuals to communicate and transact financially, assisting the project founder's market research (Gerber & Hui, 2013).

Importantly, market research has been applied in industries where projects seek to create ecosystems of complimentary products. The crowdfunding success of Pebble and Ouya, a video game console, led other developers to write applications for these products even before they were released, helping build competitive advantage even before the projects were released to the public (Mollick, 2014). Furthermore, market research of new products in crowdfunding can lead to funding from more traditional sources (Mollick, 2014). A good example of this type of crowdfunding application can be found in the “smart watch” of Pebble, which was refused venture capital at the beginning but following its Kickstarter campaign was able to be supported by a significant amount of venture capital funding (Mollick, 2014).

### ***Marketing***

Marketing Crowdfunding is heavily based on social media and online communication, radically simplifying the sharing of information about a crowdfunding project across geographical borders (Agrawal et al., 2011). For investors, promoting crowdfunding projects by forwarding information to friends and other interested parties is very easy and much faster than using offline techniques due to decreased transaction costs. Due to their financial investments, investors frequently show a high level of involvement, making use of the available communication tools in order to create awareness for projects. As a consequence, crowdfunding enables the creation of viral marketing effects.

Moreover, new ventures can compare their product ideas to those of rivals by analysing the number of supporters and social media response. Unlike traditional marketing approaches, crowdfunding allows you to advertise a product and create a fan following quickly and easily. A gaming project's developer described it thus: “You are assembling a group of individuals who are thrilled about your concept. It might take years for a firm to build a fan community, but with crowdfunding, you have these early adopters when the project just started” (Gerber & Hui, 2013).

Belleflamme et al. (2010) suggested that providing funds, gaining public exposure, and receiving feedback on a product/service are all essential elements in inspiring people to start initiatives on crowdfunding sites.

Gerber & Hui (2013) stated that the primary reasons project founders utilise these platforms are to raise funds while keeping complete control over the project, to gain feedback, to interact with investors, to duplicate successful experiences of others, and to increase visibility of work through social media. Thus, ventures in crowdfunding could compare their product ideas to those of rivals by analysing the number of supporters and social media response (Moissejev, 2013).

### ***Sales***

Crowdfunding may be utilised as a direct sales channel by providing supporters with early samples or versions of products and assuring a ready sales funnel (Hemer, 2011).

### ***Pre-Sales***

This form of application of crowdfunding involves businesses collecting payments in advance for products to be delivered at some later point in time. In doing so, the fixed costs of producing a product can be financed before production starts. In most cases, project initiators collect money to develop a future product, which usually exists only in the form of a prototype. The project initiator guarantees the delivery of the final product in return for the supporter's investment.

Some producers, for example, utilise crowdfunding to discover more interested customers and pre-sell their products. One project founder of a product design project stated: "My project partner was already interested enough that she understood she wanted to proceed with producing. Fundamentally, I used crowdfunding to increase the number of presales" (Gerber & Hui, 2013).

Moreover, Belleflamme, Lambert, & Schwienbacher (2013) found that crowdfunding allows businesses to price discriminate when utilised to entice consumers to pre-order a product: buyers who value utility will pre-order the product and pay more than later consumers who would wait till the product is available at a reduced price

on the market. In their study, they determined that this method is lucrative as long as the initial capital need stays relatively low, in contrast to profit-sharing crowdfunding, where the advantages are greater when the capital requirements are high. On the other hand, the value of the pledge is determined by an assessment of the market value of the product. During the campaign, products might be offered at a discounted price to encourage potential investors to support the crowdfunding campaign (Gierczak et al., 2016).

Finally, the non-financial incentives of crowdfunding are critical to creators (Stanko & Henard, 2016). One of project founders stated: "Without the comments and interaction I gained from my campaigns, I might have challenged to progress my products. What is more, my firm gained a lot of market attention as a result of the Kickstarter campaigns" (Stanko & Henard, 2016). Without a doubt, crowdfunding helps to create a situation where investors on crowdfunding are often a community of dedicated early adopters (Stanko & Henard, 2016). Receiving attention to their project is extremely beneficial for project founders since early adopters have a strong effect on future customers. Crowdfunding campaigns provide an immense opportunity for spreading word of mouth about innovative products. Importantly, the atmosphere for project founders has altered as a result of crowdfunding platforms. They enable creators to immediately connect with a broad customer audience in order to enhance and expedite product development efforts. Thus, crowdfunding, like other forms of venture finance (Ferrary & Granovetter, 2009), offers a potential set of resources that go beyond capital, which can be beneficial to founders.

#### 2.2.4 The Mechanism of Crowdfunding

In this section, the author will discuss the system of crowdfunding and how crowdfunding operates for project founders and investors. Project founders are offered either to pre-order the product or to advance an amount of money in exchange for a share of future profits. In either scenario, project founders gain from a community-based experience that gives them an edge over other customers or investors (community benefits) (Belleflamme et al., 2013).

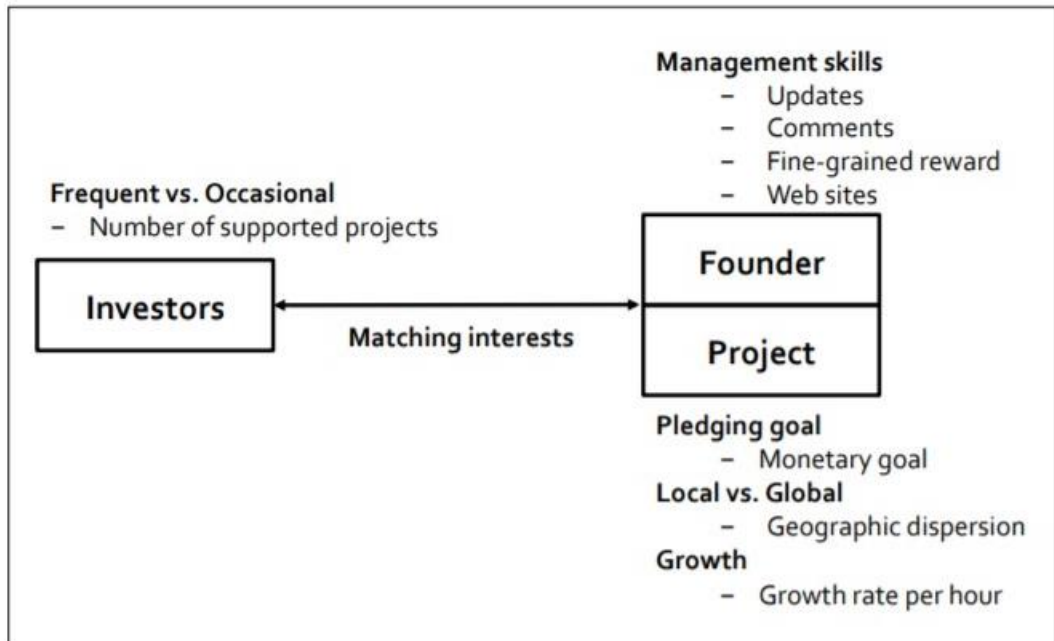


Figure 4 The Mechanism of crowdfunding Source: (An et al., 2014)

Those starting new businesses must seek money to bring their creative ideas to market, and they have frequently turned to banks and venture capitalists for help. As mentioned above, banks have provided money to those who are not part of the microfinance sector. Thus, there is a gap in the finance market for new ventures, which gives a chance to crowdfunding. Crowdfunding may match interest between investors and founders.

Nevertheless, the most prevalent cause of project failure is founders' inability to connect with a significant number of investors, which is mostly due to the lack of an automated system for linking creators and investors up until now (An et al., 2014). Furthermore, the most challenging phase was also identified: project founders failed to establish a community and attract potential investors on many occasions: "The majority of unsuccessful project founders cited their failure on their inability to properly engage an internet audience"(Gerber & Hui, 2013). Crowdfunding can overcome these obstructions, linking between creators and investors, building a community and ensuring that funds come from a network of people on the Internet who are passionate about supporting others' projects.

For example, a project is proposed by a creator by providing information about the project's aims, financial goals, time left to achieve those goals, how funds will be utilised, and potential incentives (e.g., In exchange for a gift, the creator can provide a signed picture) (An et al., 2014). The creator generally publishes videos and photos to graphically describe the concept to enhance his or her chances of success. They also link the project's page to specific social media profiles (Vismara, 2016). Small businesses without access to traditional venture capital investment have profited from the emergence of crowdfunding platforms as a new source of financial flow. Therefore, the Mechanism of crowdfunding is that offering a platform linking the demand of creators and the supply of funding from investors.

#### 2.2.4.1 The Mechanism of Different Crowdfunding

There are four types of crowdfunding: donation-based, reward-based, lending-based, and equity based. All rely on the crowdsourcing process to raise funds from a previously dispersed and heterogeneous collection of people (the crowd), who contribute the funds in exchange for tangible or intangible rewards.

##### **Donation-based Crowdfunding**

Donation-based crowdfunding is the simplest kind of crowdfunding in certain respects because investors or donors receive no reward for their contributions. Funds are distributed to the project founders without any strings attached (Garvey et al., 2016; Giudici et al., 2012). Project creators are social project founders in donation-based models, while supporters are philanthropists. The donation-based crowdfunding concept is quite similar to social entrepreneurship models (Lehner, 2013). The other three types, reward-based, lending-based, and equity-based, are more equivalent to traditional venture capital, since they utilise pooled risk funds for entrepreneurial ventures (Mollick, 2014).

##### **Lending-based Crowdfunding**

Lending-based crowdfunding is not only a type of microlending, but also is known as peer-to-peer lending. Loans are involved in peer-to-peer lending (Bradford, 2012).



Microlending is the provision of very modest, uncollateralised loans to people in order to stimulate new ventures' activity (Anthony, 2005). Investors provide capital on a short-term basis with the expectation of return. Investors are sometimes guaranteed interest on the capital they lend (Bradford, 2012). In other situations, they are merely eligible to receive their principal's return.

### **Reward-based Crowdfunding**

Reward-based crowdfunding is defined by the fact that project founders can provide rewards of non-monetary tokens of appreciation or actual items in exchange for crowdfunding contributions, depending on the amount of funds invested in the project, without losing its equity (Chan et al., 2020; Mollick, 2014). In reward-based crowdfunding, project founders are referred to as "creators" or "project founders", the most popular online form, while project supporters are referred to as "early consumers" or "co-creators" rather than "investors" (Frydrych et al., 2014).

### **Equity-based Crowdfunding**

Equity-based crowdfunding is a joint undertaking between many different investors. The entire purpose of EBC is that a lot of different investors raise small amounts of funds, and the venture aggregates the investors' capital, and the investors share the venture's returns. EBC, however, varies from conventional fundraising methods. It has several features that distinguish it from most other crowdfunding models (Block, Colombo, et al., 2018; Rossi et al., 2019a). One of the key features of EBC is that the investors engage in a new manner. In fact, crowdfunding using equity models would often entail stocks. Investors are obviously acquiring securities if they obtain regular stocks in exchange for investments from the public. Mollick (2014) stated that the differences between crowdfunding approaches are the project founders' and supporters' objectives. Traditional investment mechanisms are used in equity and lending-based structures. Equity-based models (identical to traditional venture capital) generate a project founder–investor connection, whereas lending-based models link founders and supporters in a borrower and lender relationship. A physical or monetary transaction is involved in the reward, lending, and equity-crowdfunding models. This results in contractual agreements and instruments

between the project founder and stakeholders that are similar to those seen in traditional venture financing (Agrawal et al., 2014).

Crowdfunding also creates an ecosystem that allows stakeholders to trade more resources (Belleflamme et al., 2010). This might help with the collaborative production of a company plan or other types of knowledge transfer that aren't possible with venture capital, which assesses rather than co-creates business plans (Frydrych et al., 2014). Crowdfunding participants may be able to make use of these ecosystems to raise market awareness and obtain feedback from customers. Crowdfunding may also be seen as a pre-ordering mechanism for products that allows for pricing differentiation among early adopters (Belleflamme et al., 2013). For example, Pre-order methods are often included into the incentive structure of reward-based crowdfunding initiatives, such as: invest US\$10 in a music project and receive the recorded music CD after it is done. This is a low-cost capital management strategy for organic growth in the early phases of a company (Vanacker & Manigart, 2010).

Alternative investor utility considerations, such as social good or other non-fiduciary values, may be facilitated through crowdfunding (Lehner, 2013). Investors' judgments of legitimacy include social and business aims from this perspective. Social and psychological considerations may be as significant as or more important than simply financial rewards in this situation. This implies that narrative may play an important part in successful crowdfunding campaigns by creating a credible and engaging investment storey that is separate from the new product or service features (Lounsbury & Glynn, 2001). Crowdfunding is a fundamentally communal and distributed activity. Equity and lending-based crowdfunding operations may include far more social and psychological processes than typical venture capital activities (Mollick, 2014). Although EBC is primarily for financial gain, investors may benefit from the enthusiasm or sense of camaraderie connected with the process itself (Frydrych et al., 2014). This is backed by the nature of some equity-crowdfunding contracts, which are often long-term, non-voting equity investment contracts such as 8 years with no dividends.

### ***“All-Or-Nothing” (AON) and “Keep-It-All” (KIA) model***

Another critical consideration when obtaining cash for a project through crowdfunding is the investment's conditionality. On crowdfunding, there are two sorts of conditions: “All-Or-Nothing” (AON) and “Keep-It-All” (KIA). In an All-or-Nothing platform, which is used by the vast majority of crowdfunding platforms, the entrepreneurial firms set a fundraising goal and receive nothing unless the goal is met by the end of the fundraising period. In the KIA model, however, the entrepreneurial firm may keep the whole committed money, although at a higher charge, regardless of whether or not the declared capital raising goal is met. Indiegogo allows the project founder to select between a KIA funding model and an AON funding model. Other large sites, such as Kickstarter, FundedByMe, and PeopleFund.it, only allow you to conduct AON campaigns. Other sites, such as RocketHub, GoFundMe, and Sponsume, only allow the KIA model to be used (Cumming et al., 2020).

Kim, Newberry, & Qiu (2015) assess the impact of switching from an All-or-Nothing to a Keep-It-All paradigm. They also investigate how the All-or-Nothing mechanism impacts the likelihood of projects getting financed as well as the overall quality of projects that are funded by using data from 512 campaigns which were held on Kickstarter in 2013. Specific to Kickstarter.com, if the project is not financed, funds are refunded to donors. Individuals may be more inclined to invest to projects with uncertain quality because there is less risk. If funds are guaranteed, potential contributors may avoid initiatives that are unlikely to receive funding. They discover that the All-or-Nothing method enhances success while decreasing quality (Kim et al., 2015).

Cumming, Leboeuf, & Schwienbacher (2020) studied at Indiegogo.com, where project creators may choose between the two methods, and the majority of projects selected the Keep-It-All approach. In this study, I investigate if these two fundraising methods are linked with distinct types of entrepreneurial businesses and projects, and whether this decision influences campaign success (Cumming et al., 2020).

Furthermore, I investigate if the choice of funding model affects crowdfunders' sensitivity to information provided by project founders .

Project founders that choose the AON model on their own, indicate to the crowd that they have promised to only take on the project if sufficient funds are obtained, lowering the crowd's risk. It lowers the crowd's risk that undercapitalised initiatives would be undertaken, as was the case with the KIA model. Thus, investors are less unwilling to invest funds under the AON model since they know they would get their money back if the financing target is not met. As a result, AON programs are likely to receive more funding and be more successful (Cumming et al., 2020). Project founders will only take this risk if they have a very valuable project and a solid signal for picking AON. Project founders who are working on less valuable ideas do not use the same funding approach. Projects of KIA, on the other hand, are chosen by project founders with less viable concepts since AON is too expensive a signal. These project founders might choose a more flexible fundraising strategy that allows them to gather smaller funds. This is acceptable if the degree of underfunding is not so severe that the crowd is put at danger of not getting anything. The AON approach, on the other hand, entails the project founder taking on greater risk. Thus, it may have a greater chance of successful funding. While the KIA model has a lower overall success rate, it may be ideal for project founders with less valuable ventures or when the signal is not trustworthy, particularly if the increased risk required in AON is not compensated by significantly higher success rates (Cumming et al., 2020). Cumming, Leboeuf, & Schwienbacher (2020) discovered that AON fundraising campaigns have significantly higher capital targets and are much more likely to be successful

#### 2.2.5 Shareholder Structures-Dual Structure and Nominee Structure

In EBC, the structure of the shareholders is crucial. As a result, this section will cover the dual structure and nominee structure, which are the two most common shareholder structures. The direct involvement of a large number of small investors makes it appropriate to study ownership and control of listing firms, as a comparison with alternatives. There are two different shareholder structures, dual and the nominee shareholder structure. In the dual shareholder structure, a company can

make the issuance of Class A vs. Class B shares: Class B for which no voting rights are granted, Class A which deliver individual voting rights to each investor based on the number of shares acquired. In the nominee structure, the investors are represented by one legal shareholder (i.e., the nominee), who consents to significant decisions on behalf of all individual shareholders. As a result, the investor will have no voting rights in the nominee structure. Platforms with a direct shareholder structure do not act as an intermediary between project founders and investors.

### ***Dual structure***

Usually, publicly listed businesses' voting rights and equity claims are linked such that ordinary shareholders' capacity to influence the outcome of corporate elections is proportional to their personal financial interest in the company. Many publicly listed businesses, on the other hand, have recently severed the connection between security ownership and vote power. Managers at these companies have grown their voting power without increasing their ownership of stock claims, allowing them more influence over the outcome of corporate elections without having to suffer the financial repercussions of their actions (Mikkelson & Partch, 1994). Companies can make the issuance of Class A vs. Class B shares, Class B which no voting rights are granted (Cumming et al., 2019). The number of votes per share, the slate of directors voted on, or all of these features distinguish the voting rights of the two share classes. In most cases, a second class of common stock is established by exchanging common shares for the new superior voting shares or by issuing additional shares as a stock dividend. If the company makes an exchange offer, the distribution of share ownership may alter at the time the second class of stock is created. If the company distributes shares of the new class of stock as a dividend, the distribution of share ownership inside the company does not alter instantly. Managers can raise their ownership of votes and/or decrease their ownership of equity claims over time when the business issues more limited voting stock and managers alter their own holdings (Mikkelson & Partch, 1994). The major reason for establishing two classes of stock is to protect the company from changes in control that the company's managers or principal investors do not desire.

K. Li, Ortiz-Molina, & Zhao (2008) investigate institutional investor choices for the equity of companies with an extreme type of governance, dual-class equity, which have separate voting rights for various share classes. Executives in dual-class companies own the majority of the shares with superior voting power, allowing them to manage the company without having substantial equity interests and being relatively immune to external control challenges such as takeover concerns. Outside investors can often only buy shares with restricted voting rights. In more than 70% of dual-class businesses, the shares with greater voting power are not traded, according to research on Paul A. Gompers et al. (2010). When super voting shares are exchanged, the majority of the shares are owned by insiders. As a result, outside investors in dual-class businesses have restricted control rights, even if their fractional ownership gives them significant cash-flow rights. In single-class companies, on the other hand, each share has one vote. As a result, the cash flow and control rights of outside investors are similar. Although major institutional investors frequently express their worries about dual-class structures, it is unclear if the absence of voting rights associated with outside stock investments in dual-class companies should influence institutional investment decisions (K. Li et al., 2008).

Much research has been done to see if dual-class structures impair shareholder value, but the results are mixed. Some authors believe that dual-class structures safeguard the benefits of private control (Smart & Zutter, 2003). and that the separation of ownership and control results in a loss of value (Mikkelsen & Partch, 1994). Moreover, due to the strong family participation in these companies, dual-class firms are not always badly managed (DeAngelo & DeAngelo, 1985). Evidence suggests that dual-class arrangements do not deplete shareholder value (Dimitrov & Jain, 2006). The share price response to dual-class recapitalisations is connected to the characteristics of the board (Bacon et al., 1997). Paul A. Gompers et al. (2010) investigate the drivers of dual-class status as well as the performance implications of unequal voting and cash flow rights. They find that insiders' cash flow rights increase company value, but insiders' vote rights decrease.

EBC platforms enable businesses to raise cash from a diverse collection of shareholders in a comparable, but less regulated, method. Companies can set an

investment level below which no voting rights are provided, resulting in the issuing of Class A vs. Class B shares based on individual investor investment. Indeed, as a result of differentiated voting power, shareholders who do not have a comparable economic stake in a corporation are more likely to “tunnel” away a disproportionate portion of firm value. Crowdfunding investors, like stock exchange investors, may be hesitant to invest in inferior voting shares due to the danger of expropriation. D. Cumming et al. (2019) find that a greater separation of ownership and control rights reduces the chance of the offering's success, the potential of attracting professional investors, and the long-run prospects.

### ***Nominee structure***

Shareholder structures, in particular, may differ among EBC platforms. One structure is the direct shareholder structure which each crowd investor may become a direct shareholder of the company in which he or she invests. Nominee structure is another structure. In this case, the crowd is represented by one legal shareholder (i.e., nominee) who owns the shares on behalf of the crowd. Some EBC platforms employ a nominee structure, whilst others employ a direct shareholder structure. Concentrated ownership, in conjunction with a nominee structure, is commonly acknowledged in the corporate governance literature as reducing agency costs and, as a result, improving company performance (Barry et al., 1990). This is mostly due to more efficient monitoring: more ownership concentration makes it simpler to act collectively since there is more motivation and capacity to supervise management. Furthermore, because there are fewer owners with whom to coordinate, greater ownership concentration is linked to reduced coordination costs (Dharwadkar et al., 2000). In EBC, Walthoff-Borm et al. (2018) demonstrate that a similar reasoning remains true, and that companies financed through a nominee structure in EBC should outperform companies financed through a direct shareholder structure in EBC.

One of the key mechanisms through which investors can mitigate agency conflicts is through monitoring. However, with a direct shareholder structure, many smaller crowd investors may not only lack the power but also the financial incentives to keep track of their investments (Ahlers et al., 2015). Considering their small investments

and the likelihood that others may free ride on their monitoring activities, it simply does not make economic sense for individual crowd investors to endure large monitoring expenses even if they have the capacity to influence management (Hart, 1995). Thus, management oversight in EBC companies financed through a direct shareholder structure may be inadequate.

Furthermore, the business is anticipated to suffer additional limitations and expenditures with a direct shareholder structure (Walthoff-Borm, Vanacker, et al., 2018). Firstly, the shareholder approval procedure will be more complicated, formalistic, costly, and time-consuming. Electing Director, substantially changing in the firm's constituent instruments, recapitalisations, selling important assets, and mergers all require shareholder approval. Some shareholders may be very passive investors, and as a result, they may need to be called several times to obtain their consent (Walthoff-Borm, Vanacker, et al., 2018). Furthermore, when there is dispersal in company's ownership, it is difficult to reconcile the interests of all crowd investors (J. Wang et al., 2015); That is, investors just might differ on what is the greatest option in their opinion. All of results accumulate to be a more expensive decision-making process than if the business just had to deal with one shareholder, as would be the case under a nominee structure. Moreover, all else being equal, when each crowd investor is a direct shareholder, they will have less ability to influence project founders than a group of crowd shareholders controlled and organised by a nominee.

Second, in order to obtain shareholder approval, businesses must have an accurate and up-to-date shareholder list. Maintaining such a list, once again, will be more difficult and will need a significant amount of time and effort on the part of the project founder under a direct shareholder structure. There is a critical problem since failing to properly maintain such a shareholder registry may cause more professional investors to be reluctant to invest follow-on round for the business (Walthoff-Borm, Vanacker, et al., 2018). Furthermore, professional investors may be hesitant to participate in such businesses since they are aware of the agency conflicts in a direct ownership structure and the complexity of shareholder management as stated above



(Drover, Wood, et al., 2017). This is also a reason for project founders to switch from direct structure to dual structure. Indeed, a direct shareholder structure, which produces more complicated capitalisation process, complicates administration and negotiation in funding rounds and departures. Furthermore, professional investors must ensure that their portfolio firms expand fast (Puri & Zarutskie, 2012). Interacting with and persuading a large number of individual crowd investors (rather than just one nominee) may reduce decision speed and the likelihood of expanding effectively. Thus, that is why professional investors may be hesitant to give follow-on investment to businesses with dispersed crowd investors. Nonetheless, such funding may be critical for businesses to encourage development and allow them to benefit on breakthroughs.

### 2.3 Types of Crowdfunding

Crowdfunding can be subdivided into multiple different categories, the main approach to the classification of crowdfunding, was suggested by Giudici, Nava, Rossi Lamastra, & Verecondo (2012).

One can categorize crowdfunding into four types, distinguished by what investors are promised in return for their contributions.

This author argued that each crowdfunding platform is administered under different, individual, rules affecting the set of permissible actions for both investors and project founders of innovation projects and that they can be divided based on the investors' participation rights leading to the creation of four major categories:

**Equity-based crowdfunding**, where an investor is entitled to a share of the company or of the product they are backing and are thus entitled to a residual income from the product or title.

**Lending (debt) based crowdfunding**, where investors are given an interest payment for their backing.

**Donation-based crowdfunding**, where no physical return is given to the investor, this is mainly used for charitable causes.

**Reward-based crowdfunding**, in which the investors is given a reward, based on the size of his donation which can be, for example, a product, artwork, game. The reward can be anything specified by the project creator.

This method of sub-division can be used to identify the different section of the crowdfunding literature. The following sections of this chapter consider each of these types of crowdfunding separately, identifying prominent platforms of each type of crowdfunding as well as key themes and concepts highlighted in the existing literature.

### 2.3.1 Donation-Based Crowdfunding

#### ***Definition***

Donation-based crowdfunding is the simplest kind of crowdfunding in certain respects because investors or donors receive no reward for their contributions. Funds are distributed without any strings attached to the project founders (Garvey et al., 2016; Giudici et al., 2012). Individuals and groups can donate directly to causes tackling social concerns such as the environment, community, health, events, art, and culture through donation-based crowdfunding platforms. Persons get financing from donation-based crowdfunding supporters, whereas charity donors offer funding to individuals, initiatives, or organisations on the basis of philanthropy without any of the intention of monetary or material returns. Donors in the donation-based crowdfunding system are often philanthropic and contribute their funds without expecting monetary return (Garvey et al., 2016). Donation-based crowdfunding systems have grown at a compound annual growth rate of over 50% each year (Garvey et al., 2016) and donation-based crowdfunding has emerged as the most popular crowdfunding approach in developing countries via art–culture, community, microfinance, and social activity programmes (Rijanto, 2018). Moreover, a crowdfunding site may accept donations via Web 2.0 or higher, or through an intermediary such as an NGO in some circumstances. Donors do not anticipate

monetary compensation for their efforts (Giudici et al., 2012), but instead social benefits such as admiration (Zogaj et al., 2014). A donation-based crowdfunding method may be tailored to a specific community in order to reduce contributors' fulfilment and fraud risks. Philanthropy can help mitigate such concerns on big crowdfunding sites by garnering media attention for transparency and/or engaging communities (Kain, 2012). Moreover, because donation-based crowdfunding is associated with public goods, it occupies a niche market.

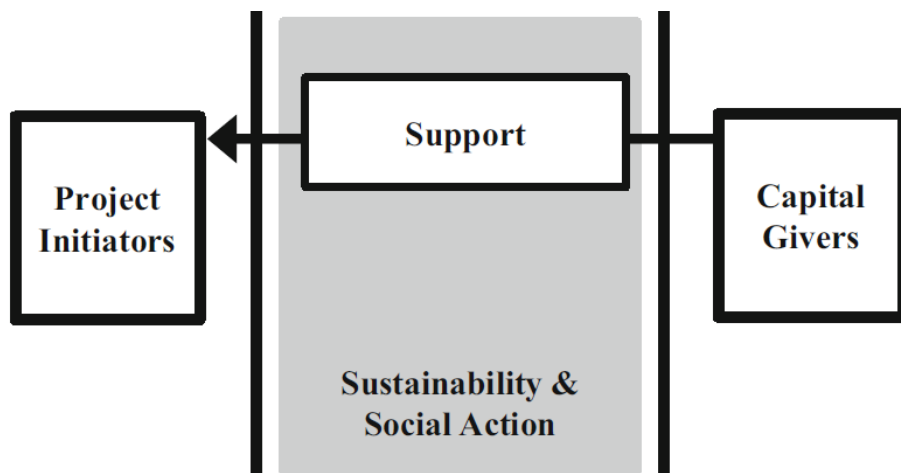


Figure 5 overview of donation-based crowdfunding Source: (Haas et al., 2014)

### **Medical crowdfunding**

Medical crowdfunding is a specific subject of donation-based crowdfunding that relates to using crowdfunding to help numerous patients access enthusiastic donors and address financial difficulties (S. Liu et al., 2020) or promote scientific research. The emergence of medical crowdfunding has significantly increased the usage efficiency of medical resources and crossed geographical boundaries, thereby easing society's long-standing problem of imbalance of medical resources (S. Liu et al., 2020). Crowdfunded health campaigns are categorised into four kinds based on the goal of the enterprise and the manner of funding (Burtch & Chan, 2014). These are programmes that covering medical expenditures, raise funds for health activities, promote health research, or innovative health care ventures. Medical expenditures are donation-based projects that finance out-of-pocket costs for people who cannot afford certain medical treatments or items. Health activities that are not for profit,

such as fundraising for medical institutions or charity organisations, patient education programmes, illness awareness campaigns, and global health missions. Health research is for health experts to directly crowdfund donations for non-profit research projects. Innovative health care ventures with commercial potential may be able to raise funds through investment-based, generally equity-based, crowdfunding.

Liu, Cheng, & Wang (2020) investigates the impact of attention and reliability on the success of online medical crowdfunding campaigns, as well as how the target amount affects such effects by utilising on objective data from 1177 crowdfunding projects in Chinese medical crowdfunding platform from 2016 to 2018. They find that the attention (number of forwards and comments) of project donors and reliability (number of dynamic updates, empirical users, and images) of projects have a positive impact on its medical crowdfunding performance. Crowdfunding project performance may be enhanced by increasing project attention, particularly for initiatives with smaller fundraising goals. Moreover, if the project's status is more regularly publicised, detailed narrative and graphic descriptions can transmit to investors more careful and trustworthy information about project sponsors than other project sponsors, making it simpler for donors to contribute. But, in online medical crowdfunding projects, the target amount dampens the beneficial impacts of the number of forwards and comments. As a result, they suggest that project sponsors should set acceptable fundraising goals while demonstrating attention and dependability to contributors.

Ren, Raghupathi, & Raghupathi (2020) investigates the link between social media, campaign features, and fundraising possibilities. Its examination of medical crowdfunding projects in various states provides an insight into the country's health-care affordability situation. The findings highlighted the many dynamics that a photograph uploaded in the campaign offers to the possibilities for medical crowdfunding. Moreover, a photo of the paediatric patient by himself or herself is the most beneficial in terms of donor motivation and it also brought attention to the optimal title length (Ren et al., 2020). Furthermore, a picture showing the patient's current medical state as severe is more effective than one depicting the situation as

relatively normal. The results show the positive impact that social media may have on medical crowdfunding (Ren et al., 2020).

Dragojlovic & Lynd (2014) present detailed information about 125 crowdfunding projects targeted towards funding cancer research (including basic research, drug discovery, and clinical trials). The findings show that crowdfunding is a feasible method for funding early proof-of-concept research, which may help cancer and rare illness researchers compete for regular grant funding or attract private investment. Moreover, crowdfunding might be a beneficial supplementary source of funding for early-stage drug research innovators (Dragojlovic & Lynd, 2014).

As the usage of medical crowdfunding grows, it is more vital than ever to understand the ethical implications of the activity and how to avoid undesirable outcomes. The remarkable success of the campaign calls attention to ethical problems inherent in medical crowdfunding that may go unnoticed in less severe circumstances, which Dressler & Kelly (2018) use as an example to show the hidden consequences of crowdfunding on healthcare and its delivery. “To begin with, crowdfunding unfairly changes the allocation of healthcare resources away from medical need and toward factors such as looks, background, and financial ability to pay. Second, healthcare is apparently not a market resource, particularly within the NHS in UK; hence, allowing crowdfunding might introduce market standards that could skew conventional conceptions of healthcare and health. Third, external pressures originating from the donor–recipient connection may have an undue impact on patients-cum-funding recipients, putting their decision-making autonomy in doubt” (Dressler & Kelly, 2018, p. 456).

Moreover, Snyder, Mathers, & Crooks (2016) discuss three major and significant ethical issues. (Snyder et al., 2016). First, who is the most benefited by medical crowdfunding. For the platform, successful campaigns will reduce a large amount of the cash raised away from the hosting website and other third parties. While it is appropriate for for-profit businesses to charge fees for the services they provide, the wording employed on these websites frequently conceals the size of these costs.

Furthermore, fraudulent usage of medical crowdfunding platforms is an issue for the firms. In the past, project founders have misappropriated contributed cash by lying about their own sicknesses, launching fictitious campaigns for truly ill friends or family, and utilising donations for purposes other than those advocated in their campaigns (Snyder et al., 2016). While medical fraud occurs outside of crowdfunding, its capacity to appeal to people with whom one may have no personal relationship offers additional potential for deception, and public awareness of fraud may deter future donations. Many victims of these fraudulent campaigns have discovered that the medical crowdfunding platforms where they were housed were of little assistance in preventing or stopping the fraud (Snyder et al., 2016). While these websites frequently request or require project founders to link a Facebook or other social media account to their campaign in order to verify their identity, these social media sites do not verify the identity of their users, allowing for easy misrepresentation of the campaign's organizer's identity (Snyder et al., 2016).

Secondly, Donors are more inclined to donate to campaigns for beneficiaries with whom prospective donors sympathise rather than the reasons of limited access to medical treatment (Snyder et al., 2016). Medical crowdfunding platforms sometimes utilise wording that depicts the need for donations as arising from an unexpected or unanticipated catastrophe, rather than from systematic issues that result in individuals receiving insufficient medical treatment. These platforms, like other charitable settings that seek empathy from potential contributors, tend to convey that campaign hosts should publish positive messages and use powerful language while building their crowdfunding campaigns in order to urge individuals to donate (Snyder et al., 2016).

Third, these websites have an impact on the privacy of project founders and donors. Medical crowdfunding platforms encourage, if not compel, users to share personal information with as many people as possible, including friends and strangers. They are informed that without this disclosure of personal information, their quest to get contributed cash is unlikely to succeed. As a result, medical crowdfunding pits

individuals' desire to protect their medical privacy against their need for medical money (Snyder et al., 2016). Medical crowdfunding campaigns are most effective when information about a person's medical needs is disseminated to a large audience and presented in a way that elicits sympathy and donations. These campaigns are accessible to the public and searchable by web search engines, with little obstacles to entry (Snyder et al., 2016). As a result, medical crowdfunding allows the recipient's medical information, as well as extremely intimate photos and videos, to be widely disseminated, with the recipient having no control over how this material is limited or used.

### ***Platform***

Donations, as the name implies, are made through donation sites. Investors give without any intention of monetary or material returns (Garvey et al., 2016). However, while the supporter's motivation is benevolent, the beneficiary's motivation does not have to be. Donations may be used to finance for-profit businesses. Pure donation sites are uncommon, and those that do exist tend to focus on demands from charities and other non-profit organisations rather than demands from companies (Bradford, 2012). Some reward and pre-purchase platforms also enable non-rewarded calls for donations, although according to one research, around 20% of all crowdfunding projects were demands for donations with no rewards provided (Bradford, 2012). GlobalGiving is an example of a donation-only website. It enables donors to make donations to development campaigns all across the world (Bradford, 2012). The site's administrator, the GlobalGiving Foundation, charges a 15% fee and promises that the balance of the gift will reach the program by two months (Bradford, 2012). GlobalGiving, like other pure contribution platforms, is, however, restricted to non-profit organisations (Bradford, 2012). The pure-donation concept is not used by any of the main crowdfunding sites available to ventures project founders .

### ***Signalling***

Website acceptability, crowd familiarity, and donation reciprocity are important success criteria for donation-based crowdfunding (Zhang et al., 2020). Information Quality is the most important indicator of Platform Trust. Information quality is also

an important signal of project success in donation-based crowdfunding, as it is in other models of crowdsourcing such as equity and reward crowdfunding. Individuals or groups in charge of fundraising campaigns must pay special attention to the material they publish on their website. They must ensure that the project aspects that funders are interested in are highlighted in the description, and that the content given is accurate and complete (Zhang et al., 2020). Project founders may make more attempts to display their activities through photos and videos, as well as testimonials from trustworthy persons or groups. Additionally, project founders must ensure that the material is updated on a frequent and timely basis. To create a successful crowdfunding campaign, donors and donees must collaborate closely to foster a sense of family. It could strengthen the signal of Crowd Familiarity and Donation Reciprocity (Zhang et al., 2020).

Moreover, donation-based crowdfunding also allows managers and businesses to engage in Corporate Social Responsibility donation activities into numerous small social projects by donating modest amounts of money to various sorts of social projects throughout many areas (Rijanto, 2018). Donation-based crowdfunding activities as a signal for companies to utilise Corporate Social Responsibility initiatives through fundraising and increase their social capital. Charity becomes a method of acquiring social prestige, impression management, and other forms of extrinsic value in relation to corporate donation operations (Yoon et al., 2006). Rather than merely immediate purchasing behaviour, Company Social Responsibility can have larger strategic impacts such as corporate brand equity development (Lichtenstein et al., 2004). Individuals and organisations that give through the financing mechanisms of donation-based crowdfunding models do not expect to receive a return on their contributions (Garvey et al., 2016). Donors may, however, receive online acknowledgment for a modest donation and/or a customised gift or published recognition for larger gifts. This is the foundation for fundraising in the non-profit sector, in which supporters are recognised in various ways based on the quantity of gifts given (Rijanto, 2018). Therefore, Executives of large corporations could use donation-based crowdfunding to increase their company's Corporate Social



Responsibility activities and donation-based financing as a signal to improve their social capital.

### 2.3.2 Lending-Based Crowdfunding

#### ***Definition***

Financial capital is often regarded as a critical resource for enabling entrepreneurial activity (Florin et al., 2003). Nevertheless, for poor project founders in both emerging and developed nations, obtaining sufficient financial resources from external sources or via personal savings is extremely challenging. Instead, poor project founders are increasingly able to obtain external financing through a procedure called as microlending (Bruton et al., 2008). Microlending is the provision of very modest, uncollateralised loans to people in order to stimulate new ventures' activity (Anthony, 2005). Lending-based crowdfunding is not only a type of microlending, but also is known as peer-to-peer lending. Loans are involved in peer-to-peer lending (Bradford, 2012). Investors provide capital on a short-term basis with the expectation of return. Investors are sometimes guaranteed interest on the capital they lend (Bradford, 2012). In other situations, they are merely eligible to receive their principal's return. Moreover, unlike traditional lending institutions, crowdfunding-based microlending intermediates act as pass-through agents, allowing lenders in wealthy nations to invest in project founders all over the world (Allison et al., 2015). Lending-based platforms have two main models. A lending-based platform based on prosocial lending that allows lenders to help individuals in need with a loan that pays no interest to the investors (Berns et al., 2020). When making loan decisions, several crowdfunding lenders take into account not just extrinsic variables, but also inner aspects such as prosocial drive (Allison et al., 2015). Platforms like LendingClub and Prosper, on the other hand, allow investors to lend with a focus on accumulating financial return through interest rates. This platform adheres to a more traditional financial goal of creating money for investors.

The major goal of online microfinance platforms is to reduce poverty and promote social welfare (Bruton et al., 2008; Yang et al., 2016). Health crises and natural catastrophes are becoming important drivers of increased poverty. Yang et al (2016)

are investigating how external events affect consumer and lender behaviour allows for the analysis of the role and promise of peer-to-peer lending in decreasing global poverty and solving societal problems. Their preliminary findings indicate positive trends on both the demand and supply sides of peer-to-peer lending (Yang et al., 2016). Borrowers want greater financial capital, and lenders are more active in their lending practises in the post-crisis period. Their research shows that offline variables play a major influence in lenders' decisions regarding which borrowers to assist. Because microlending is primarily driven by altruism, the “willingness to help” serves as a key motivator for lending behaviour (Yang et al., 2016). Thus, offline factors (e.g., unanticipated crises, economic conditions) have a significant impact on loan behaviour. In the first line, project founders swap capital for shares in a company. In the second line Investors receive its principle and interests. The most significant risk to investors is default, which can be triggered by moral hazard concerns in lending-based crowdfunding.

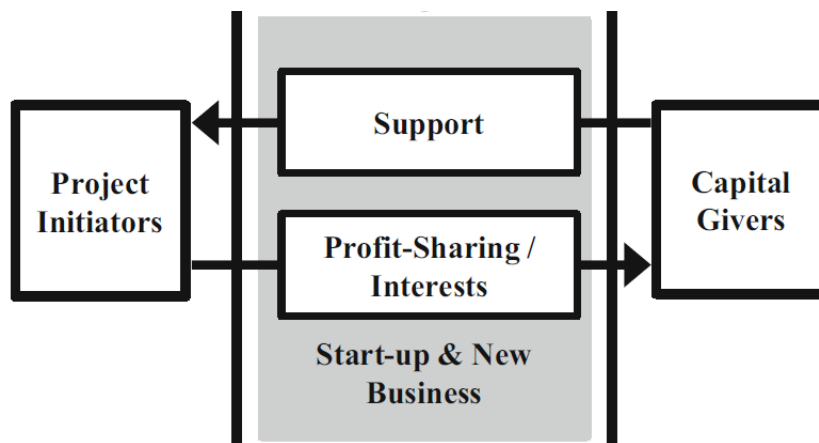


Figure 6 overview of lending-based crowdfunding Source: (Haas et al., 2014)

### **Moral hazard**

A few researchers look at the investing behaviour of lending-based crowdfunding investors, highlighting the relevance of both financial and ethical concerns (Burtch et al., 2014; Kgoroadira et al., 2019). When compared to Kiva's intermediary-based platform with 97.5 percent, the recovery percentage in the P2P market is rather low with 78 percent. Investors in interest-free P2P lending are taking on far more credit risk (Dorfleitner et al., 2021). Credit risk is less of an issue under Kiva's intermediary-based model, and corresponding investors may expend less time in selecting

trustworthy borrowers because the projected loss rate is only 2.5 percent. The facts that the financing probability in interest-free peer-to-peer lending is less than 67 percent, which is much lower than the intermediary-based model's funding likelihood of 99 percent (Berns et al., 2020). This suggests that investors are concerned about the interest-free peer-to-peer lending's default risk. Because there is no real compensation for the significantly increased potential default risk of direct loans, investors may be more cautious about non-financial aspects (Dorfleitner et al., 2021).

Lending-based platforms incorporate background checks to reduce moral hazard. In order to gain access to the platform, both borrowers and lenders must first go through a verification procedure (e.g., users must give a legitimate social security number, a valid bank account number, etc.) (Kgoroadira et al., 2019). Following that, the platforms offer lenders financial and non-financial information on the applicants in order to assist due diligence (Kgoroadira et al., 2019). Lending-based platforms can utilise microfinance institutions to mitigate the problem of moral hazard as well. Microfinance institutions not only generate inside information about borrowers, but they also successfully convey such information to large groups of people (Berns et al., 2021). Berns, Shahriar, & Unda (2021) investigate the function of delegated monitoring in crowdfunded microfinance. People in the Kiva lending-based crowdfunding platform lend to borrowers through microfinance institutions rather than directly lending (Berns et al., 2021). These microfinance institutions keep track of debt contracts on behalf of the crowd. They discovered that borrowers who are closely supervised by microfinance institutions are more likely to repay crowdfunded loans on schedule (Berns et al., 2021). Monitoring is especially crucial in decreasing payback issues with individual loans rather than group loans. In less competitive loan markets, monitoring has a greater influence. They also discover that when lending to borrowers, audiences pay close attention to the capacity of the loan-administering microfinance institutions to monitor loans (Berns et al., 2021). Thus, Microfinance institutions involving in lending-based crowdfunding can be a way to mitigate the problem of moral hazard.

## ***Platform***

### ***Kiva***

Kiva is the world's largest lending-based crowdfunding platform (Needleman, 2010), and operates in 69 different countries (Allison et al., 2015). Kiva is a non-profit company formed in 2005 with the worldwide aim of connecting people via loans to relieve poverty (Berns et al., 2020). Kiva does not lend directly to project founders, but rather collaborates with microfinance lenders all around the globe, who it refers to as "field partners". Kiva collects and distributes this money to field partners, as well as crediting lenders with any repayments made by the project founders (Bradford, 2012). The field partners utilise any interest collected to fund their operational costs; lenders on the Kiva site only get their principle back (Bradford, 2012). People in Kiva lending-based crowdfunding platform lend to borrowers through microfinance institutions rather than directly lending (Berns et al., 2021). These microfinance institutions keep track of debt contracts on behalf of the crowd. Kiva aims to connect disadvantaged businesses with global lenders via a network of local micro-lending institutions known as field associates (Berns et al., 2020). The profiles of project founders on Kiva are used to reveal information about themselves and their enterprise (Courtney et al., 2017; Moss et al., 2015). Every project founder's loan application is placed on the Kiva website, where potential lenders can review the applications and finance them in any amount ranging from \$25 to the whole loan amount.

Kiva connects small businesses with lenders from across the world who are willing to offer capital in terms of microloans. In this strategy, the internet platform connects crowdfunding lenders and project founders and protects that relationship by providing supervision through local financial institutions (i.e., area associates) in each region. This type of microlending has been advocated as a means of stimulating economic growth in impoverished places across the world (Armendáriz & Morduch, 2010; Bardy et al., 2012)

### ***LendingClub and Prosper***

Lending Club has expanded rapidly since its start. The total amount of loans granted increased from less than a billion dollars in 2013 to almost 60 billion dollars in 2019 (Dong, 2020), and on Lending Club, the average P2P loan amount is \$8,626 (Galloway, 2009). Today, Lending Club functions more like a financial services firm than a marketplace. It provides a wide range of financial services to institutional investors, including online lending (unsecured), note investment, loan-backed trusts/security, financial consulting, and other structured products. Despite this, the majority of its revenue comes from transaction fees for loans generated through the site (Dong, 2020).

Prosper is the first peer-to-peer lending network in the United States, having launched in 2005. The average P2P loan amount on Prosper is \$6,172 (Galloway, 2009). Prosper, as one of the largest online peer-to-peer lending platforms, hosts online auctions where potential borrowers can seek a three-year, unsecured, fixed-rate loan (Fitzpatrick & Mues, 2021). The borrowers give information about the loan, such as the amount, the maximum interest rate, the reason for utilising the loan, and the borrowers' personal information for the listing.

Of Interest-embedded sites the two most popular interest-bearing peer-to-peer lending sites are Prosper and Lending Club. These websites do not all offer loans for commercial reasons. The majority of the loans are for personal expenses, but small business lending is on the rise on these sites (Bradford, 2012). The operation of Prosper Platform and Lending Club Platform are similar but not identical. Borrowers apply for loans in sums ranging from \$1,000 to \$25,000 on a monthly basis (Zhao, Ge, et al., 2017). Those requests are reviewed by potential lenders, who then pick which ones to support. Each loan proposal requires a minimum investment of \$25 (Bradford, 2012; Zhao, Ge, et al., 2017). When a loan has enough agreements to complete, the borrower signs a three-year unsecured note for the amount borrowed. Since Prosper and Lending Club originally began, the structure of investor participation in these loans has transformed. Borrowers on both platforms used to issue notes directly to the crowdfunding lenders, with the site keeping custody and servicing the notes for a 1% fee (Bradford, 2012).

However, the two sites' lenders no longer make direct loans to the underlying debtors. Instead, lenders buy notes directly from Prosper or Lending Club, and the sites utilise the capital to buy loans to the underlying borrowers through WebBank (Bradford, 2012; Zhao, Ge, et al., 2017). Despite the fact that the sites are the issuers of the notes that the lenders buy, companies are only required to pay if the underlying borrowers repay their debts. In fact, the websites operate as payment conduits for borrowers, collecting 1% of payments before passing them on to the lenders. On each loan, both Prosper and Lending Club charge borrowers an application fee, the amount of which is determined by the borrower's credit risk. Interest rates on the notes (and the underlying loans) are different in Prosper and Lending Club (Zhao, Ge, et al., 2017). Lending Club assesses each borrower and provides a "loan quality" to each loan, determining the interest rate. Each possible loan is also rated by Prosper, but the ratings are only used to determine the minimum rate. An auction procedure determines the real interest rate. Each lender offers the lowest percentage he is prepared to accept, and the interest rate on each loan (and on Prosper's notes) is the lowest percentage acceptable to enough lenders to cover the entire loan (Bradford, 2012).

### ***Signalling***

Borrowers might transmit signals suggesting their worthiness of being supported in the lending-based crowdfunding to decrease the significant information asymmetry. Investors respond to these signals depending on both the financial and non-financial evaluations (Dorfleitner et al., 2021). Despite the fact that the signals given by borrowers in lending-based crowdfunding can't be validated, dishonest signals may not be in the borrowers' best interests, and they should carefully pick which signals to convey (Moss et al., 2015). Signals in self-written description messages are given specific attention in lending-based crowdfunding, since recent research has revealed the informativeness of unverified writings (Allison et al., 2015; Berns et al., 2020). Moreover, unconfirmed information on the peer-to-peer lending site may affect people's decisions and lower debt costs (Michels, 2012). Microfinance institutions as third-party institutions not only generate inside information about borrowers, but

they also successfully convey such information to large groups of people (Berns et al., 2021).

Soft information is also an important factor for the success of lending-based crowdfunding. By comparing the transactions and loan applications on the two leading European P2P platforms located in Germany, namely Smava and Auxmoney, with respect to these soft factors, Dorfleitner et al. (2016) examine the role that soft information derived from description texts plays in the funding decision and in predicting the default probability in peer-to-peer lending. They pay close attention to spelling mistakes, text length, and the presence of social and emotional elements in the description language (Dorfleitner et al., 2016). They discover that spelling mistakes, text length, and phrases eliciting pleasant emotions are important predictors of funding likelihood (Dorfleitner et al., 2016).

Allison et al (2015) analyses a sample of microloans provided to over 36,000 businesses in 51 countries using an online lending-based crowdfunding platform. They tried to get a better understanding of whether intrinsic and extrinsic cues included in entrepreneurial stories impact investor interest to such loans. Moreover, how language signals known to impact underlying motivation might frame entrepreneurial tales as either a commercial opportunity or a chance to serve others, using cognitive evaluation theory and what effect this framing has on fundraising success in the context of prosocial lending (Allison et al., 2015). They discover that, at least in crowd-funded microfinance, intrinsic cues outperform extrinsic clues and Lenders respond favourably to narratives that frame the enterprise as an opportunity to assist others, but less favourably when the narrative is presented as a commercial opportunity (Allison et al., 2015). They propose that this is due to the relative significance of intrinsic cues among a group of lenders who are intrinsically driven and self-select into crowd-funded microfinance (Allison et al., 2015).

In financial transactions, trustworthiness impressions are important because they predict investor and borrower behaviour. Duarte, Siegel, & Young (2012) chose 20,000 postings and 6,500 loans on lending-based platform Prosper at random

between May 2006 and January 2008 to examine if investors' lending decisions are influenced by appearance-based assessments about individual borrowers' reliability. Borrowers who appear to be more reliable are more likely to obtain a loan and embed lower interest rates than those who seem to be less reliable (Duarte et al., 2012). Individual decisions are influenced by appearance-based perceptions not just in the labour market and politics (Todorov et al., 2005), but also in financial transactions. Borrowers who appear to be more trustworthy have higher credit ratings and lower default rates than those who appear to be less trustworthy (Duarte et al., 2012). This study might imply that a person's physical appearance can provide information about their reputational capital. Moreover, though lenders offer reduced rates to borrowers who look trustworthy, the rates are not low enough to completely account for the default rate of trustworthy borrowers (Duarte et al., 2012).

### 2.3.3 Reward-Based Crowdfunding

#### ***Definition***

Reward-based crowdfunding is defined by the fact that project founders can provide rewards of non-monetary items of appreciation or actual things in exchange for crowdfunding contributions depending on the amount of funds invested in the project, without losing its equity (Chan et al., 2020; Mollick, 2014). Project founders frequently utilise reward-based crowdfunding to evaluate product ideas on potential customers and to assess the potential market. Reward-based crowdfunding enables them to evade the social and geographic restrictions that venture capitalists and angel investors place on them (Agrawal et al., 2015) Crowdfunding can be thought of as a pre-ordering approach for products that allows for pricing differentiation among early adopters (Belleflamme et al., 2013). For example, pre-order methods are often used in incentive structures for reward-based crowdfunding projects, such as: invest \$20 in an earphone project and receive the finished product after it is finished. The pre-purchase or pre-order crowdfunding models are similar to the reward-based crowdfunding model, and often are available jointly on the same sites. In return for participation, the reward model provides an investor some products, but offers no income and no share of the company's profit.



In the reward model, investors do not obtain a monetary return, such as interest, dividends, or a portion of the company's earnings. Instead, they obtain the project founder's finished product. A reward-based crowdfunding platform can support any legitimate product or service. Project founders can offer investors a variety of incentives, ranging from a simple "thank you" for their contributions to the delivery of actual items or services (such as early access to games, music, or movies) promised in the project. The rewards also might be simple, for example, a keyring or something with a bit more prestige like the title of the contributor on a film's credits. If the project founder is creating a music album, for example, participants will receive the record or the ability to purchase it at a discounted price after it is finished (Bradford, 2012). The most popular reward/prepurchase crowdfunding sites are Kickstarter and IndieGoGo. The two websites have a lot in common. It is not necessary to give rewards during the crowdfunding campaign. Instead, they can be sent to the supporter at a later date, similar to how pre-ordering works in video games and the technology industry. For example, users fund a project with the understanding that they would not obtain it for at a fixed period of time, which may be prolonged due to delays on production (Hernandez & Handan, 2014). Because of this anticipated delay, reward-based crowdfunding may be separated into two sections: the financing phase and the delivery phase. A project can have numerous prizes or categories of rewards, and supporters can pick from any of them. Rewards have been identified as one of the most important drives in reward-based platforms in the research (Bretschneider & Leimeister, 2017).

Reward-based crowdfunding is a strategy of without bearing cost capital management for organic growth in the early phases of a company as funds without any interest. It is advantageous to decrease costs in the early phases of a company. Moreover, through examining the choices of project founders under two different models from the perspective of microeconomics: pre-order and profit sharing, Belleflamme et al. (2014) demonstrated that when the venture's costs are low, the project founder should choose for a pre-order system. Conversely, the developer should select for a profit-sharing model. Thus, project founders can use reward-

based crowdfunding platforms to finance their enterprises, with some of them going on to become high-growth businesses (Mollick & Kuppuswamy, 2014; Schwienbacher & Larralde, 2010).

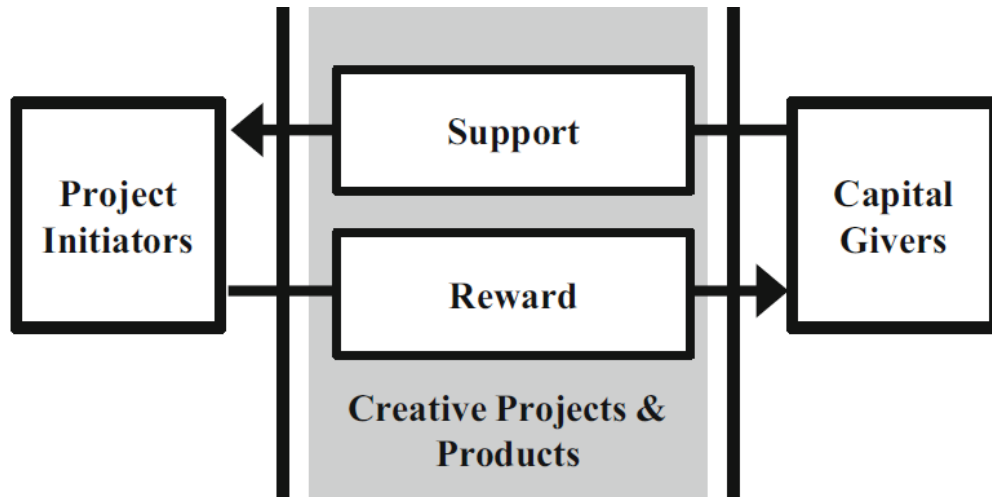


Figure 7 overview of reward-based crowdfunding Source: (Haas et al., 2014)

In the first line of an overview of reward-based crowdfunding, Investors provide the funds to project founders to create or produce services or products. In the second line, project founders deliver the rewards to investors when they finished as they promised. The amount of money received through reward-based crowdfunding has been significant, and it is likely to continue to increase fast. Globally, over \$5 billion was funded through reward-based crowdfunding in 2015, accounting for over 9% of new investments for venture capital (Vanacker et al., 2019). The ventures collecting the most money create cutting-edge consumer products. Furthermore, new ventures that offer technology, design, or gaming items received over 60 percent of the \$2.4 billion financed through the Kickstarter site in 2017 (Chemla & Tinn, 2016). While projects of success in crowdfunding, or those that reached their fundraising goal, raised an average of \$20 thousand across all sectors, projects of success in crowdfunding in technology, design, and gaming raised over 88 thousand dollars, over 60 thousand dollars, and over 50 thousand dollars, respectively (Chemla & Tinn, 2016). Furthermore, several of these ventures have received funding equivalent to that received in round of angel capital or venture capital investment. Given a well-known moral hazard problem, this accomplishment may appear unexpected (Tirole, 2010). Rather than providing the items, ventures may be motivated to divert cash

obtained. Perhaps even more unexpected is the discovery that reward-based crowdfunding appears to assist creative enterprises the best. Even so, these ventures are highly susceptible to moral hazard and information asymmetry (Strausz, 2015).

### ***Moral hazard***

In the term of reward-based crowdfunding, because the rewards must only be offered after the crowdfunding campaign is finished without any explicit legal duty on the part of the project's creator to provide the stated benefits, there is a moral hazard problem that might arise with reward-based crowdfunding (Mollick, 2014; Strausz, 2015). This raises two critical issues about reward-based crowdfunding in terms of 2 subjects. For project founders, are they able to keep their promise to provide the rewards? For platforms, is there a system in place to prevent fraudulent projects? Some studies have focused on the behaviour of project founders when it comes to delivering rewards. E. Mollick (2014) found that just less than 4 percent of 471 Kickstarter projects failed to provide the promised rewards, despite the fact that 75 percent of the projects were late. For project founders, while the great majority of project founders strive to provide items promised to backers, only a small percentage of them do so on schedule, an issue that is compounded in large or overfunded ventures (Mollick, 2014). E. R. Mollick (2015) then expanded on his initial analysis, surveying 47,188 Kickstarter supporters and discovering that failure to fulfil accounted for around 10% of all projects, with a potential range of 5-14 percent. Even in the most severe scenario, just under 15 percent of crowdfunding campaigns failed to deliver, according to the report. It is necessary to consider the failure rate of start-ups based on different failure situations to determine whether this number of 15 percent is fine or terrible.

Some studies also have focused on the role or mechanism of platform to reduce moral hazard. Reward-crowdfunding platforms can utilise the mechanism of "All-or-nothing". Mechanism of "All-or-nothing" promotes effective screening while avoiding moral hazard are defined via mechanism design (Strausz, 2015). Strausz (2015) conclude that to mitigate the risk of moral hazard, optimum systems postpone

payments to the ventures and because the moral hazard problem interacts with the decrease of demand uncertainty, optimum methods only partially eliminate demand uncertainty. Moreover, because the moral hazard issue clashes with the project founder's desire for funding, the best optimal outcomes are impossible to achieve if there is a balance between capital cost and benefit of expectation of the project before crowdfunding campaigns (Strausz, 2015). In the context of moral hazard, Strausz (2017) then provides a theoretical model of reward-based crowdfunding. While Strausz focuses on optimum mechanism design, the model also generates a variety of campaign parameter and outcome forecasts. According to the model, moral hazard causes creators to set improperly high target amounts to protect for the possible benefits of expropriating capital (Strausz, 2017). Due to systemic imperfection, the creator is able to take the money and escape, resulting in inefficiency (Strausz, 2017). In other words, the profits must be large enough for the project founder to be motivated to invest in manufacturing. Because total demand is unpredictable, choosing a greater goal amount means a lesser chance of success but higher profits if the campaign succeeds (T. Lin & Pursiainen, 2018).

Moreover, moral hazard is relative to social capital. The amount of institutional weakness indicated by  $\alpha$  can be taken as an indicator of how far the project founders can be trusted properly (Carlin et al., 2009). It is influenced by both official and informal institutions, such as courts and the legal and regulatory framework, as well as community governance and behavioural norms (T. Lin & Pursiainen, 2018) which is relevant to social capital. If high-social-capital societies enact stronger behavioural standards that penalise fraud, the effective cost of deception for an project founder rises, and therefore decreases  $\alpha$ . If all else is equal, Strausz (2017) states that  $\alpha$  should be inversely linked to the degree of social capital. As the impact of moral hazard cannot be directly measure, Lin & Pursiainen (2018) study indirectly the relationship between crowdfunding dynamics and social capital to find out the impact of moral hazard. They conclude that utilising social capital's well-documented tendency to produce trustworthy conduct and therefore minimise moral hazard (Chemla & Tinn, 2016), adds moral hazard into their model and conclude that because reward-based

crowdfunding platforms are not legally accountable for ensuring the delivery of rewards, establishing that a business has committed fraud is difficult.

Nevertheless, E. Mollick (2014) find that the great majority of founders appear to meet their promises to investors, but more than 75% deliver products later than planned, with the degree of delay predicted by the amount and kind of investment a project obtains. The author states that it is acceptable, and investors can utilise the social capital of projects to assist in mitigating the problem of moral hazard (T. Lin & Pursiainen, 2018).

### ***Platform***

Kickstarter is one of the oldest and most popular online crowdfunding services. Kickstarter was launched in 2009. With the assistance of over 14 million investors, more than 130,000 projects have received funding aggregating over 3 billion dollars (Chaney, 2019). Kickstarter is a club of several million people who have invested hundreds of millions of dollars to finance creative projects in areas such as art, dance, design, music, film and video, and theatre, according to the company's website (Kuppuswamy & Bayus, 2017). It enables project founders to experiment with new goods and services supplied with a large amount of capital when the result is uncertain, like with the Oculus Rift, or enables project founders to build up their operations for previously created products. The value of products may be as little as a few dollars for a pottery piece to over 10 million dollars for an innovative smart watch. Kickstarter now expressly advises supporters to present potential investors a design of the technology or product, which has grown over the years from experimental goods (Kaminski et al., 2019). Kickstarter stipulates that all of its projects have rewards, which are generally pre-purchased items (Bradford, 2012). According to Kickstarter, rewards are generally goods generated by the project itself—a record of the CD, a poster from the event, a special edition of the book. The payment required to acquire the goods is usually less than the planned selling price. However, Kickstarter prizes are not restricted to pre-orders. There are some rewards including a “set visit, naming a figure after a supporter, or a special phone call”(Bradford, 2012).

Indiegogo, located in San Francisco, is a global reward based crowdfunding platform that allows any project founders to raise funding for their ideas or their new ventures as well. Indiegogo has hosted many campaigns for organisations, NGOs, a group of persons and individuals, a community, or even a religious or political organization collecting funds all across the world since its inception in 2007. Danae Ringelmann, Slava Rubin, and Eric Schell established the international crowdsourcing portal Indiegogo. Since 2007, over 800,000 projects have been started, with over 1.3 billion dollars funded (Cumming et al., 2020). Indiegogo allows businesses to begin their online reward-based crowdfunding campaign in one of three categories: Creative, Innovative, or Social, which are further broken into 24 subcategories. The platform's entrepreneurial projects range from eyeglasses that stream first person videos via social media, classified in the Creative category and the Design subcategory, to a brain-sensing headband classified in the Innovative category and the Technology subcategory, to a training centre for rescue dogs classified in the Social category and the Animals subcategory (Cumming et al., 2020). In IndieGoGo, AON campaigns may run up to 60 days while KIA campaigns can last up to 120 days. The platform gathers pledges from backers during the campaign. When the campaign is over, the funds are sent to the project founder via PayPal (Cumming et al., 2020). Signing up, creating a campaign, and contributing to a campaign are all free, with a 5.0 percent commission charge on cash raised. Indiegogo conducts both donation and rewards-based initiatives, with crowd investors receiving a reward in exchange for their investment in a campaign (Bradford, 2012). Unlike Kickstarter, IndieGoGo does not mandate campaigns to include "perks," though it does promote them and Many of the benefits available on the IndieGoGo website adhere to the pre-purchase model (Bradford, 2012).

Both Kickstarter and IndieGoGo take a percentage of the funds raised. Kickstarter operates on an "all-or-nothing" financing mechanism, and projects are not financed until they meet their declared funding target." If a project meets its financing target, Kickstarter charges a 5% fee; if it does not, Kickstarter will not charge a fee. IndieGoGo allows project creators to access promised cash instantly, regardless of

whether the financing target is met, however the charge is determined by whether or not the financing target is achieved. IndieGoGo charges a 4% fee if the financing target is met and a 9% cost if it is an unsuccessful campaign, if the project founder chooses to call the pledged money (Bradford, 2012).

### ***Signalling***

Rewards-based crowdfunding may disclose or signal information regarding external factors. The approach of rewards-based crowdfunding allows for numerous reviews by thousands of potential investors, who may be well positioned to appraise the project's feasibility as end consumers of the product. Individual investors show their interest in using the product and their conviction in its successful growth via their investments. As a result, products are not produced based on the opinions and desires of fictitious clients. Instead, they develop if and only if current consumers buy into their idea. Choices made as a group are more accurate than decisions made alone. Rewards-based crowdfunding is also a way to invest in future products, which may not be met in the current market. However, it also serves as a crowd-sourced prototype for certain technologies and industries. Crowdfunding may help to examine the credibility of a company and its technology, as well as remove doubt about the feasibility and viability of new innovations. A broader breadth of expertise improves evaluation accuracy and lowers information constraints, resulting in more efficient funding selections. Recent empirical studies support the argument that, despite the possibility of herding and craziness, the crowd increases the reliability of projects and sends a signal (Ahlers et al., 2015; Mollick, 2014).

E. R. Mollick & Kuppuswamy (2014) performed a follow-up study of Kickstarter projects and discovered that crowdfunding not only attracts additional investors, but also customers and employees. Among Kickstarter-funded projects, there is a high likelihood of success. Over 85 percent of sponsored projects stayed active 1–4 years following their campaign. The participation of the online brand community may provide a significant indication of a project's feasibility and market validity, which may substantially impact the view of other potential investors (Mollick & Kuppuswamy, 2014). Thus rewards-based crowdfunding has, unsurprisingly, had an

impact on industries such as gaming, internet-related technology, wearable computing, music, and 3-D printing (Mollick & Nanda, 2016). Crowdfunding, by providing a direct trial run, gives information on customer acceptance and sales volume, as well as making product demand easier to estimate (Chemla & Tinn, 2016). Furthermore, successful project founders in rewards-based crowdfunding produce spill overs and accelerate the evolution of new technological sectors to help new businesses emerge and expand (Agrawal et al., 2015).

E. Mollick (2014) also used a database of over 48,500 projects with a total investment of more than \$237 million. Social capital, preparation, and geography are all connected with a higher likelihood of project success in reward-based crowdfunding. Preparation includes setting up a series of videos as required by the platform, verifying spelling of introduction material, and the frequency of updates. Because few ventures are successful soon after launch, a timely update should suggest a well-prepared project founder (Mollick, 2014). Spelling problems should signal a lack of preparedness and quality due to the availability of spell-checking software and the lack of appropriate proofreading implied by typos (Mollick, 2014). Personal social networks, are expected to give project founders with comparable benefits in terms of endorsements and access to external capital (Mollick, 2014). Thus, signals such as videos and regular updates are connected with increased success, but spelling problems decrease the likelihood of success. Geography appears to be related to the kind and success of projects on reward-based crowdfunding as well (Mollick, 2014). Controlling for the size of the city, the founder's network, and the number of other Kickstarter founders in that location, a proportionately higher creative population was connected with a higher likelihood of success for founders. Moreover, these impacts remain even when just small cities with populations of 500,000 or less are considered, when only the Eastern or Western half of the United States are considered, or when Facebook social network connections are included (Mollick, 2014). Thus, geography may be a key factor in the success of crowdfunding campaigns.



Moreover, narrative may be an important component in the success of crowdfunding campaigns (Gafni et al., 2019). Gafni et al. (2019) examined a distinctive experiment of over 19,000 cross-vertical fundraising campaigns, which collected over 120 million dollars in total, using a text mining approach confirmed by human coding. When the project founders present the concept to possible investors, it is in their best interests to provide material that they feel would stimulate the investors' interest and drive them to invest to the project. As a result, Gafni et al. (2019) attempt to determine which is more effective for the project founders: putting more emphasis on their personal character or their company concept. Nevertheless, because their dataset of 19,000 commercials is cross-vertical, with 13 distinct categories ranging from scientific to art, it is obvious that various categories/industries need different ways to pitching (Gafni et al., 2019). Gafni et al. (2019) show that technological projects appear to be more oriented on the business concept, whereas artistic ones are more oriented on the project founder's character.

Furthermore, the use of social media by creators in rewards-based crowdfunding is also critical to campaign success (Hong et al., 2015; Thies et al., 2014). Thies et al. (2014) collected data from November 15th, 2013, to March 24th, 2014, in Twitter, Facebook and the web of Indiegogo, totalling about 186,500 data points to find out the dynamic connection that exists between social media platforms and contributor behaviours. It suggests that before investing in a project, potential supporters learn about it through their social network and seek input from their peers (Thies et al., 2014). Project founders can build up their social buzz, which plays an important part in the success of reward-based crowdfunding projects (Thies et al., 2014). Moreover, successful producers can profit from social media information delivery and the relative predictive effect of Facebook shares rises over time, particularly for successful projects, showing that social media buzz is a critical differentiating element for crowdfunding campaign success (Thies et al., 2014). However, when compared to the unidirectional social network Twitter, the impacts were weaker than Facebook (Thies et al., 2014). Hong et al. (2015) performed a panel data analysis which comprises of 223 IndieGoGo crowdfunding campaign data and integrates IndieGoGo financing data with social media sharing activity data from Twitter and

Facebook to investigate the relationship between social media activity and crowdfunding campaign aims in terms of the intention to create a public or private good. Their findings shows that other elements of campaigns (such as their private or public nature) can play a significant role in explaining those results (Hong et al., 2015).

Using sample data in Kickstarter, Li & Jarvenpaa (2015) explore how the usage of stretch goals affects project outcomes. Their theoretical approach and empirical findings contribute to a variety of ways. They broaden the scope of goal-setting theory to include IT-mediated crowds as well as traditional hierarchical companies. They findings emphasise the importance of community participation and the uniqueness of stretch targets (Z. Li & Jarvenpaa, 2015). Stretch goals allow project creators to improve their project's financing performance (Z. Li & Jarvenpaa, 2015). The good benefits of stretch goals are amplified in projects which combines with a higher level of community involvement. Stretch goals, on the other hand, are less successful in some industries where they have been used more often and so are more prevalent (Z. Li & Jarvenpaa, 2015). The empirical findings also show that using stretch goals greatly increases the chance of a project to postpone delivering its rewards (Z. Li & Jarvenpaa, 2015). Thus, stretch goals have a negative side that project founders, investors, and crowdfunding platforms should be aware of.

Kuppuswamy & Bayus (2017) suggest the significance of establishing proper goals: Too aggressive targets might make it harder to close. Their review showed that there is a substantial gradient impact under different situations which are in projects of Kickstarter. This results in numerous management considerations for setting goals. When projects reach their goal, projects get additional backing, but the support is dramatically reduced once the goal has been accomplished (Kuppuswamy & Bayus, 2017). Easy to accomplish this objective gradient effect and establishing targets that are too low may reduce contributions early, because assistance declines after the goal has been achieved. Moreover, the gradient effects I discover imply that communications with the goals enhance contributions (Kuppuswamy & Bayus, 2017). For example, I would like to collect 1 million dollars and have reached 80% of the

target already. Since the target progress during the financing cycle is dynamically updated, this message also reduces the impacts of investor weariness because of repetition (Kuppuswamy & Bayus, 2017). Furthermore, the findings of research show that such communication only under specific situations is most effective. For example, as the project approaches its deadline for funding, the goal of the project is low, or the early project support is minimal. It appears that people in the crowdfunding community desire to assist other project founders in finance, especially if they think their contribution actually counts.

Greenberg & Mollick (2015) chose 1,250 rewards-based crowdfunding campaigns in Kickstarter from five categories at random: games, tech, movie, design, and children's literature to investigate if projects having a larger number of female donors leads to women having a better success rate. Interestingly, this impact is strongest among female founders pitching technological projects, despite the fact that male founders and funders dominate this area (Greenberg & Mollick, 2015). Gafni, Marom, Robb, & Sade (2021) discovered that women's participation in the platform as creators (34.7%) is not proportional to their entire population, and that they are clustered in stereotyped industries, both as creators and as investors. Moreover, even after adjusting for project sectors and fundraising targets, females do not set lower financial targets than males and females have better probability of success in crowdfunding than males, and those investors of both genders prefer to finance founders of their own gender (Gafni et al., 2021).

The social capital of project founders can be crucial to the success of rewards-based crowdfunding (Colombo et al., 2015). They chose 669 projects at random from reward-based crowdfunding projects on Kickstarter that were launched after November 2012 and concluded by January 2013, resulting in a sample size of 669 projects. The internal social capital of project founders that supporters had backed at the time of campaign launch which looks at the drivers of crowdfunding campaign success (Colombo et al., 2015). Internal social capital is critical for attracting supporters and generating funds in the early stages of a campaign, according to their empirical estimations. Thus, these early contributions are significantly related to a

project's ability to meet its funding goal and to effect on the success of rewards-based crowdfunding campaign (Colombo et al., 2015).

#### 2.3.4 Equity-Based Crowdfunding

##### ***Definition***

EBC is becoming a common way of raising outside finance for new ventures. (Block, Colombo, et al., 2018; Rossi et al., 2019a). By definition, crowdfunding is a joint undertaking between many different investors. The entire purpose of EBC is that a lot of different investors raise small amounts of funds, and the venture aggregates the investors' capital, and the investors share the venture's returns. EBC, however, varies from conventional fundraising methods. It has several features that distinguish it from most other crowdfunding models (Block, Colombo, et al., 2018; Rossi et al., 2019a). One of the key features of EBC is that the investors engage in a new manner. In fact, crowdfunding using equity models would often entail stocks. Investors are obviously acquiring securities if they obtain regular stocks in exchange for investments from the public. The security definition is stock (Bradford, 2012). Even if crowdfunding participants are granted a portion of the business's return that does not include corporate shares, their investments are still securities as the Howey investment contract test which is subject to U.S. securities laws is applied to interests in partnerships and limited liability corporations, as well as other nonstock equity holdings (Bradford, 2012). EBC generates equity that is given to the general public. As a consequence, investors do not just fund a project in order to obtain incentives, discounts, or benefit and also they own a tiny piece of the firm and subsequently receive a percentage of the return that is proportional to their investment (Rossi et al., 2019a). Another advantage of equity is that it receives more investments per equity-based campaign than any other crowdfunding model such as over 40 percent of total projects in 2012 raised more than \$100,000 (Crowdsourcing, 2012; Rossi et al., 2019a).

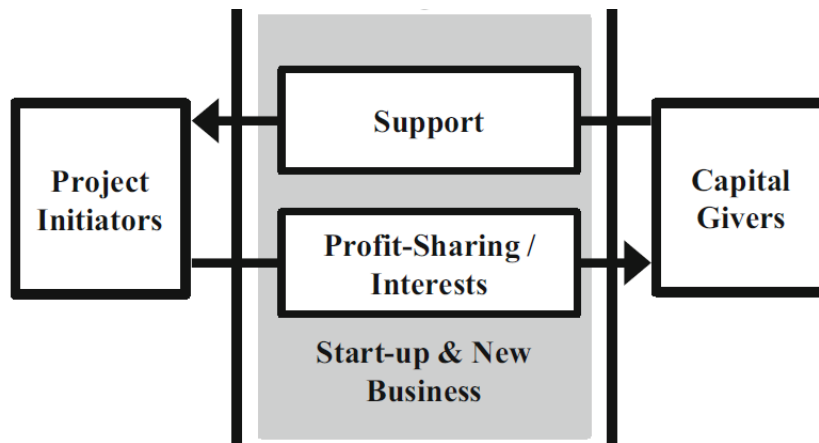


Figure 8 overview of equity-based crowdfunding Source: (Haas et al., 2014)

In the first line, project founders swap capital for shares in a company. In the second line Investors have two options, either They own the shares and keep a portion of the earnings, or they sell the equity in the expectation that it will be worth over the price of what they paid for it. Thus, the value of the stock owned and the routes of exits by the investors, as well as the legislative frameworks required for its growth, are the important questions for this form of crowdfunding. These may be divided into two categories: selection difficulties and moral hazard concerns. To investigate selection, one must first determine how many EBC businesses have gone bankrupt after launching a campaign. Hornuf, Schmitt, & Stenzhorn (2018) studied data from Germany and England on the bankruptcy of EBC start-ups, discovering better survival rates in England: over 40 weeks after the campaigns concluded, 80 percent of English firms survived, compared to 70 percent of German companies. Furthermore, Hornuf, Schmitt, & Stenzhorn (2018) proposed that the moral hazard issue of creators failing to deliver on their commitments might be resolved by utilising several crowdfunding rounds and taking into account the technique used by businesses where a portion of the money is held back for a set length of time until the investors agree on the creators' performance and the funds are released.

### ***Moral hazard***

In practise, investors may be concerned about the issue of moral hazard and minor role whether the project founder or creator will ultimately be successful in operation of their new ventures or provide an item that fits the initial criteria, or whether they

will receive any return at all (Strausz, 2015). There is limited supervision on the operation of new ventures in EBC, leading to project founders using money from crowdfunding for their personal interest rather than investing this funding into operation of new ventures or research and development of new products to increase the higher growth of business (Bradford, 2012).

All of these distinct types of moral hazard regard the project founder merely taking entire funding and not investing. Moreover, the expectation of a new venture's profits is generated entirely via the imagination of the promoters or other third parties. Crowdfunding investors are typically not involved in the day-to-day operations of the ventures which they fund, and even if the crowdfunding site gives them a minor role, The "important managerial efforts that impact the new venture's failure or success" will be those of the project founders (Bradford, 2012). Thus, there is information asymmetry between investors and project founders. Information asymmetry is a problem when it comes to funding entrepreneurial ventures. This is an example of information asymmetry, which occurs when various parties involved in a transaction do not have equal access to the same level of information (Myers & Majluf, 1984). Executives do take risks, but investors are the ones who bear the consequences (H. Short, 1994). As a result, equity financing is a method of spreading risk among several persons, which may reduce the risk of moral hazard for each person. As opposed to debt financing, it pushes equity investors to absorb the risk they leave. As a result, the initial riskiness of the business, as well as the risk-taking attitude of the inventor, impact the financial structure of a firm (Sannajust et al., 2014). This problem may be amplified in the case of crowdfunding. Indeed, because investors are not professionals, they have accessibility to less knowledge about the business, the project founder's historical performance, and many other elements of value-relevant information. Small investors, unlike professional investors, are less likely to have financial competence or enough time to conduct due diligence (Schwienbacher & Larralde, 2010). Furthermore, because of their quantity and lack of experience, the project founder may be even more hesitant to provide information to this sort of investor. However, not all investors demand project founders to provide the same amount of information disclosure. Equity investors often need

more information than debt investors because they carry more risk. In relation to this issue, project founders who seek venture capital funding are more likely to have protected their ideas through intellectual property rights, implying that the project founder's legal environment has a direct impact on his decision (Ueda, 2004).

### ***Regulation***

Crowdfunding platforms act as medium for potential investors and project founders. Thus, they handle the fundraising process by developing their own rules and processes that are compliant with the laws of the country in where they are located. They differ in numerous aspects, including funding techniques, due diligence, campaign length, services provided, corporate governance, and conditions of offering. Especially, the process of raising capital from EBC is exchange shares, which is similar with IPO. It poses some specific regulatory challenges. Regulation of EBC varies by country. The author outlines the regulation by presenting the restrictions imposed by the major legislation governing EBC in Australia, Austria, Canada, France, Germany, the UK and the US. The regulation including the types of firms that are permitted to start an equity-based offering, the restrictions on the amount of funds, the types of securities used to raise funds, as well as the crowdfunding investor limits in terms of small and qualified investors.

In Australia, the adoption of the Corporation Amendment (Crowd-sourced Funding) Act 2017 has regulated EBC. Firms that can raise funds through crowdfunding are unlisted public companies, with less than AU\$25 million in assets and yearly revenue (Rossi et al., 2019a). The maximum of raising capital is AU\$5 million, with a single issuer limit of AU\$10 thousand for small investors.

In Austria, Austrian legislators revised the national securities legislation, raising the crucial barrier for non-prospectus offerings from €100,000 to €250,000 in July 2013. The portal 1000x1000 then provided the first EBC to investors in October 2013, with the first issuer Woodero collecting a total of €166,950 during a roughly 8 financing period (Hornuf & Schwienbacher, 2017). The sum obviously surpassed the floor value of the threshold for non-prospectus offerings. The issuers of campaign have operated

under the previous law. In 2015, Austria has passed a new law. the Austrian government regulates EBC under the Alternative Financing Act. The maximum of raising capital is €250 thousand if campaign is via equity and debt. Small investors are regulated to a cap of double the average monthly income of the investment during the previous year and Up to 10% of financial assets may be invested if the investor shows proof of a monthly net income of at least €2.5 thousand; otherwise, the maximum is €5 thousand (Rossi et al., 2019a).

In Canada, the Canadian regulatory framework for EBC is created on a province-by-province basis. The majority of start-up finance is referred to by two main legislations. British Columbia, Saskatchewan, Manitoba, Quebec, New Brunswick, and Nova Scotia are all part of the Start-up Crowdfunding Exemption (Rossi et al., 2019a). Companies may raise up to CA\$250 thousand per offering, with a limit of two offers per year, under the Start-up Crowdfunding Exemption (Rossi et al., 2019a). For both small and accredited investors, the individual issuer maximum is CA\$1.5 thousand and the offering maximum for firms is CA\$1.5 million, according to the Crowdfunding Exemption. For small investors, the aggregate limit is CA\$10 thousand, with a single issuer limit of CA\$2.5 thousand, and for accredited investors, the aggregate maximum is CA\$50 thousand, with a single investor limit of CA\$25 thousand (Rossi et al., 2019a).

In France, as an EU member state, it enacted the Prospectus Directive 2010/73/EU and so follows the same regulations as other EU countries, with minor modifications. The exemption for security offerings with a total value of less than €100,000 is still in effect (Hornuf & Schwienbacher, 2017). However, in the range of €100,000 to €1,000,000, a further exemption applies provided the total amount raised does not exceed 50% of the firm's current equity capital. For example, if a company currently has at least €400,000 in equity capital, it can raise €200,000 without a prospectus or registration (Hornuf & Schwienbacher, 2017). Significantly, because they function as financial intermediaries and are therefore subject to their own laws, French platforms must get a permit from the French securities regulator AMF (Hornuf & Schwienbacher, 2017). On February 14, 2014, the French government of economic



affairs and finance implemented new regulation on EBC which sets offering limit of €1 million (Rossi et al., 2019a).

Unlike other European nations, Germany just established special laws in 2015 and they had not previously adopted to EBC, which had occurred within the framework of existing securities law. The German Securities Prospectus Act and the Investment Act, in general, established the crucial threshold for security and investment offerings without a prospectus at €100,000 (Hornuf & Schwienbacher, 2017). The German Parliament approved the Small Investor Protection Act on April 23, 2015, to more explicitly regulate EBC. Firms can now offer up to €2.5 million without having to register a prospectus, according to the new regulations (Rossi et al., 2019a). The German crowdfunding market is anticipated to grow to 359 million euros. Profit-oriented models, such as equity-based and lending-based crowdfunding, are anticipated to see the most substantial development (Gierczak et al., 2016). Experts predict that these two models will have a global market share of 60–80 percent and a market share of 60–80 percent in Germany. Experts believe that crowdfunding in Germany will continue to increase in the coming years, particularly in assisting creative initiatives (97 percent), start-ups (87 percent), and young growing enterprises (92 percent) generate funds (Gierczak et al., 2016).

In the United Kingdom, EBC is now governed by general securities legislation, specifically the Financial Services and Markets Act 2000. The Financial Conduct Authority (FCA) launched a consultation on a special EBC legislation in October 2013. The UK regulated EBC via the Policy Statement PS14/4 which established an offering limit of £5 million per year and aggregate and aggregate and single issuer limits of 10% of the investor's net assets for small investors (Rossi et al., 2019a). The new rules went into effect in April 2014, with the goal of making EBC “more accessible to a larger, but limited, audience” of investors, while also ensuring that “only those retail investors who can understand and bear the various risks involved are invited to invest in unlisted shares or debt securities” (Hornuf & Schwienbacher, 2017). Crowdfunding platforms allow both professional and limited investors to trade. Pre-existing laws identify high-net-worth investors as individuals with an annual income of at least

£100,000 or net assets of at least £250,000 (Vismara, 2019). Certified sophisticated investors are characterised as such if a certified firm evaluates the investor's capacity to grasp the risks connected with non-readily realisable investments (Vismara, 2019).

“Additionally, they can be defined as such if they have a “Self-Certified Professional Investor” statement, in which the investor declares to be a member of a network of business angels, to have worked in the business finance sector over the previous two years, or to have served as a director of a company with at least £1 million in revenues. Professional investors (i.e., both high net-worth and certified sophisticated investors) are not subject to any specific restriction when investing in crowdfunding. For restricted investors, the portion of money invested in non-readily realisable investments, including crowdfunded securities, cannot exceed 10% of his or her net assets. Restricted investors are required to certify that they understand investment opportunities and risks, or that they have received independent advice” (Vismara, 2019). Moreover, The FCA allows securities brokerage only to sophisticated investors, high net worth investors, corporate finance contacts, or venture capital contacts, retail clients who confirm that they will receive regulated investment advice or investment management services from an authorised person, or retail clients who certify that they will not invest more than 10% of their net investible assets (Hornuf & Schwienbacher, 2017). Additionally, For the time being, the UK may fund other European programmes. A UK supporter, on the other hand, would be unable to finance initiatives in China or America (Vismara, 2018).

On 2012, the Jumpstart my Business Startups Act (JOBS Act) was signed in the United States of America to allow for EBC, modifying the current exemptions for capital raising under Section 4(6) of the Securities Act. Title III of the JOBS Act now allows issuers to raise up to \$1 million in total over a 12-month period without submitting a registration statement with the SEC or at the beginning (Hornuf & Schwienbacher, 2017). Furthermore, the US legislature attempts to safeguard investors by restricting the amount that one investor may invest in the whole market (aggregate limit) (Hornuf & Schwienbacher, 2017). According to the JOBS Act, for small investors, this aggregate limit did not exceed the higher of \$2 thousand or 5% of an investor's

annual income or net worth if either the investor's annual income or net worth is less than \$100 thousand. For accredited investors, if the investor's annual income or net worth is equal to or higher than \$100 thousand, the aggregate limit offered to the investor may not over 10% of either its annual income or net worth, with the larger value applicable (Hornuf & Schwienbacher, 2017). In any event, the total amount offered to a single investor should not exceed \$100,000.

### ***Difference with initial public offerings (IPO)***

In contrast to initial public offerings (IPOs), where institutional investors receive the greatest proportion of shares (Aggarwal et al., 2002), EBC is commonly linked with small investors contributing smaller amount of funds.

EBC, like initial public offerings (IPOs), provides a unique opportunity to study corporate governance (Bertoni et al., 2014). In both initial public offerings (IPOs) and EBC, a company's ownership is made publicly available to outside investors for the first time (Alhstrom et al. 2017). Indeed, a significant portion of research on the relationship between governance structures and company value focuses on IPOs, as this is the point at which governance rules are formed to regulate subsequent existence as public firms. The corporate governance of a firm is clearer at the time of a public offering than at any other point in its life cycle (Vismara et al., 2012). Takeover threats or other simultaneous variables may trigger continuous governance changes, making it impossible to separate the relationship between governance arrangements and company value (Rossi et al., 2019a). Even in the existence of a liquid secondary market, a high initial shareholder retention rate might result in control concentration several years after the IPO (Goergen & Renneboog, 2003).

In EBC, there are only a few platforms, such as Seedrs, enabling stock trading of secondary shares (Rossi et al., 2019a). The ownership structure after crowdfunding offers is typically stable due to the restricted opportunities for secondary trades. Because of the similarity with IPOs, EBC offers are particularly relevant objects of study for analysing corporate governance, as are the relevance of the corporate governance framework in the lack of a liquid secondary market (Rossi et al., 2019a).

Crowdfunding platforms face a large population of potential investors. These investors vary in size from amateur investors with no expertise in investment to qualified investors, who are identified in many ways depending on the country's regulations as mentioned in last section. When compared to initial public offerings (IPOs), where institutional investors obtain the majority of the shares (Aggarwal et al., 2002), Crowdfunding is most commonly linked with the engagement of a large number of small investors who contribute small amounts of funds (Rossi et al., 2019a). There are, nevertheless, platforms that need qualified investors to participate, as well as platforms that have required minimum investment. As a result, EBC platforms provide a new and diverse ecosystem where small and accredited investors may coexist (Rossi et al., 2019a).

### ***Platform***

Despite these legal constraints, the number of EBC platforms is booming. In the United Kingdom, Crowdcube, Seedrs, and SyndicateRoom are three well-known EBC websites. Crowdcube and Seedrs are EBC platforms, focusing on project founders (Rossi et al., 2020). There are some unique revenue-sharing models providing for investments in music (e.g., My Major Company), films (e.g., Pirate My Film and Slated), the arts in general (Sokap), and mobile applications (e.g., Sokap) (Appbackr and AppsFunder) (Cumming et al., 2012). Crowdcube was one of the earliest EBC platforms in the world, having launched in the UK in 2011 (Rossi & Vismara, 2018). Crowdcube has raised over 480 million pounds (Rossi & Vismara, 2018), enabling project founders to raise capital via three types of means: equity, convertible bond, and pure debt (such as bond) (Rossi et al., 2020). For Crowdcube, the average amount raised per successful campaign is 0.7 million pounds. The business plan for each project is verified before it is listed (according to statement from Crowdcube website, the due diligence team checks 28 project founder claims for each accepted project), but no continued reporting to the firm is needed (Cumming et al., 2012). This platform operates on a “all-or-nothing” model, meaning that if the campaign's goal is achieved, the campaign is a success, and investors obtain the direct shares of the firm; if the goal is not met, the money is returned to investors at no cost to them. As a result, project founders are encouraged to set a realistic goal. The overfunding

mechanism, on the other hand, allows them to generate more money than the initial goal. Investors who invested before the offering got overfunded have the same rights as those who invested before the offering became overfunded. By comparison, the typical successful Crowdcube equity offering provides 145 investors a direct ownership interest (Signori & Vismara, 2018).

Seedrs was founded in 2012, which also enables businesses to raise funds in three ways: equity, cash, and convertible. When you invest in a Seedrs fund, you become an equity holder in each company that the fund manager selects (Rossi et al., 2020). For Seedrs, the average amount raised per successful campaign is 0.6 million pounds. Since its inception in 2012, Seedrs has raised approximately 400 million pounds. Seedrs employ integrated nominee structures, which means that instead of each individual supporter becoming a shareholder, the platforms themselves remain the representation of their investors during the time of investment. On the other hand, the majority of Crowdcube and Seedrs' transactions to raise capital are by offering equity. Both systems work on an all-or-nothing basis, with the project founder receiving nothing unless the goal is met (Cumming et al., 2020). With 215 financed transactions, including rounds after 2019, and a total of £99,3 million, Seedr's was the most active investment in 2019 while Crowdcube was the second largest capital gained through UK EBC platforms with 191 deals, despite recording £125.3 million (Rossi et al., 2020). For such platforms, 2019 was the busiest year recorded, both for the volume of transactions and the amount raised. Crowdcube and Seedrs collected £2 billion combined since 2011. Crowdcube and Seedrs announced on October 5, 2020 that they will merge into 'one of the biggest private equity market in the world (Rossi et al., 2020).

SyndicateRoom is an EBC platform for investors headed by the UK. It has been launched in 2013 and has been designed to enable investors to co-invest along with institutional investors. SyndicateRoom raised over £200 million via EBC between 2013–2019 (Rossi et al., 2020). However, In October 2019, the SyndicateRoom declared its intention to embrace the investment venture capital fund model and no longer provide individual investment crowdsourcing possibilities. The platform runs

an all-or-nothing approach such as Crowdcube and Seedrs. However, unlike Crowdcube and Seedrs, which ask for symbolic minimum investment thresholds, SyndicateRoom asks for a minimum invested capital of £1,000 to access the investment opportunity, in addition to the involvement of at least one venture capital or business angel to list the offering on the portal. However, while Crowdcube or Seedrs who are requesting minimum investment levels, in addition to the engagement of at least one Venture capitalist or Business angel to publish the offering on the campaign, SyndicateRoom is requesting a minimum investing capital of £1 thousand in order to acquire the investment opportunity (Rossi et al., 2020).

In Australia, the platform of the Australian small-scale offering board (ASSOB) has allowed businesses to raise more than 146 million dollars since it started in 2005 (Ahlers et al., 2015). In the United States, EBC platforms have emerged to provide start-ups the opportunity to conduct EBC campaigns since Regulation crowdfunding, title III of the JOBS Act, took effect in 2016. As of July 2020, 53 funding platforms were operating under Regulation crowdfunding (Rossi et al., 2020). Among them, SeedInvest, Wefunder, and StartEngine account for 80% of all capital raised for equity Regulation CF offerings across all platforms. Since around July 2020, there are 53 financing platforms operating when enacted the crowdfunding Regulation, title III of the JOBS Act. 80 per cent of all start-ups' EBC launch on the platform of SeedInvest, Wefunder and StartEngine. There are 471 start-ups raising capital in Wefunder, raised \$171.5 million while SeedInvest raised \$200 million for 200 start-ups and StartEngine raised \$200 million for 375 start-ups in September 2020 (Rossi et al., 2020). They run an all-or-nothing structure, operate undertakings and provide securities in many forms, including equity, debt, and the Simple Future Equity Agreement (Rossi et al., 2020).

In Germany, there are 3 of these platforms accounting for 85 percent of the market share in terms of cash raised and 82 percent for the number of start-ups supported which is Seedmatch, Innovestment, and Companisto. Seedmatch and Innovestment were the first platform to function in Germany, having successfully launched their initial campaigns in late 2011, while Companisto entered in German market a year

later, but it followed up quickly (Hornuf & Schwienbacher, 2018). United Equity is a tiny platform that ran its initial campaign successfully in 2013 (Hornuf & Schwienbacher, 2018). United Equity does not take an advantage of the user base and reputation of slightly older platforms because of its status as a late starter. It may take longer for a certain amount of capital to be funded by United Equity and is at higher risk of not being properly finished. The all-or-nothing approach is used by all German EBC platforms. However, the investors are allowed to oversubscribe projects up to reach a financing limit, which the issue till they have reached a financial limit (Hornuf & Schwienbacher, 2018). The financing target has often been placed at EUR 50,000.

### ***Signalling***

New ventures launch an EBC campaign to raise capital, display its product or service on a campaign and introduce their background to potential investors. The venture quality and its level of uncertainty in the equity campaign can send to investor, affecting the probability of success in crowdfunding (Ahlers et al., 2015). It is important to evaluate asymmetric EBC information with asymmetrical information in the venture's finance and that asymmetries of information are considerably larger in cross funding because of the distance between investors and creators (Agrawal et al., 2011). Investors use the visible data as a signal for non-observable information to counteract this asymmetrical information. Projects cannot provide a piece of information which the potential investors consider as useless information and the projects thus are more likely to be considered as low quality. Ahlers et al. (2015) first conduct an empirical examination of three different set of signals, human capital, social capital and intellectual capital. However, the amount of equity offered and whether financial projections are provided was found to have had little or no significant impact on funding success and there is a similar outcome on intellectual capital (as measured by patents) and social (alliance) capital. The number of investors backing the project was only significantly affected by human capital. The higher number of board members are also positive and significantly related to funding success for both attracting a greater number of investors, and for greater funding

amount. Human capital was set by two variables, which are the number of board members and the number of board members with a degree of MBA. One potential drawback to this is that these estimates may not reflect human capital properly and that the use of different approaches may capture human capital.

Moreover, this study also discusses the influence of uncertainty in EBC. The amount of equity offered is considered as information provided by the campaign and also considered as the level of uncertainty. There is a negative and significant relation between the percentage of offered equity and the expected number of investors. This research stated that the success of EBC is related to the amount of equity offered and human capital, on the other hand, many variables were non-significant in their model, indicating that the special variables utilised to represent these occurrences need to be further taken into account.

Piva & Rossi-Lamastra (2018), surveyed 284 project founders that started EBC campaigns and discovered that project founders' business education and entrepreneurial experience are the only factors that significantly contribute to their success in EBC. The usefulness of human capital signals in decreasing information asymmetries experienced by crowdfunding investors and, as a result, in accelerating project founders to crowdfunding success (Piva & Rossi-Lamastra, 2018). It is determined by the signal's fit with the venture's quality as well as the ambiguity of signal. The minimal ambiguity refers to business education and entrepreneurial experience, both of which are important for project founders' success and are well-suited to the venture while there is a lot of ambiguity about industry-specific education and career experience, both of which do not contribute to project founders' success in EBC and have a bad match with the business (Piva & Rossi-Lamastra, 2018).

Mohammadi & Shafi (2018) used data from the Swedish EBC portal FundedByMe between 2012 and March 2015, which included 2537 investments from 1979 individual investors to explore if there are gender variations in the behaviour of investors in companies seeking EBC. Given the importance of gender in risk-taking



behaviour, they predict female investors will be less motivated than their male peers to participate in riskier companies through EBC (Mohammadi & Shafi, 2018). The results state that women are less likely to follow women, whereas women are more inclined to follow men, according to these findings. Moreover, this effect is amplified when the project has an external certificate. In the presence of positive features, the increased effect of gender-related herding suggests that women are not attributing gender-related herding momentum to the project's quality (Mohammadi & Shafi, 2018). As a result, the reasons behind male investors' actions are being ignored. Female investors are less inclined to invest in the securities of young, high-tech companies with a high percentage of equity offers. This pattern appears to be consistent with female investors having a higher risk aversion than male investors (Eckel & Grossman, 2008). Female investors are also more inclined to invest in ventures with a larger number of male investors (Mohammadi & Shafi, 2018).

Just as it is in traditional corporate finance (Leland & Pyle, 1977), equity retention is seen as an indication of quality. Project founders who sell a greater proportion of their company at the time of listing are less likely to pique potential investors' attention. Vismara (2016) examines into the signalling significance that equity retention and social capital play for external investors in EBC, by collecting a sample of 271 projects launched on the Crowdcube and Seedrs crowdfunding platforms between 2011 and 2014. Project founders that sold a smaller proportion of their company upon listing had a better chance of success with their EBC campaigns (Vismara, 2016). Moreover, social network theory applies to entrepreneurial finance. Social networks assist to minimise uncertainty and attract attention (Leyden et al., 2014). Project founders' social ties have been shown to impact venture investment decisions and assist investors decrease informational asymmetry (Shane & Cable, 2002). Supporters with larger social networks have a better chance of succeeding in the struggle for visibility. Vismara (2016) presents empirical evidence of the importance of these relationships in EBC since it aids in projects attractiveness and so attract more investors and funds.

Third-party endorsement can play an important role on the success of EBC (Bapna, 2016; Kleinert et al., 2020). Bapna (2016) compared experienced investors with inexperienced investors in term of the response on third-party endorsements for investment in EBC. Experienced investors are 72 percent more likely than individuals who did not get a signal to express an interest in investing as they may see the product certification and strong affiliate indications in combination (Bapna, 2016). Moreover, experienced investors who were able to see the combined product certification and social evidence signals have 65 percent higher probability to express an interest in investing (Bapna, 2016). This implies that when they have a concrete indication of quality, experienced investors would follow others (the crowd or high-status people). For inexperienced investors, on the other hand, the endorsements and combinations are not substantially linked with investment interest, suggesting that there is a lack of consensus within this group regarding what characteristics define a high-potential enterprise (Bapna, 2016).

Kleinert et al. (2020) analysed 221 business projects' descriptions from start-ups that used Crowdcube to launch EBC campaigns in 2017 and 2018 to investigate the impact of professional investors on EBC. Over 50 percent of the companies have previously obtained financing from business angels, venture capitalists, crowdfunding, or grants. Prior funding activities have a beneficial impact on campaign success. Typically, the benefit is greater for businesses supported by various types of investors and for firms that have previously launched successful crowdfunding campaigns (Kleinert et al., 2020). To separate the quality signal from the additional benefits associated with an affiliation with previous investors, they examine whether the effect of earlier funding is reduced by project uncertainty. In term of a signalling effect, preliminary evidence indicates that past funding is particularly important for businesses in the uncertain seed stage (Kleinert et al., 2020). An association with venture capitalists, in particular, indicates quality of crowdfunding project among the other investor categories.

### ***Summary***

EBC varies from conventional fundraising methods. It has several features that distinguish it from most other crowdfunding models. Crowdfunding using equity

models would often entail stocks. EBC shifts power to the project founder by replacing a handful of larger outside investors with a multitude of smaller ones (Drover, Busenitz, et al., 2017). Mollick (2014) stated that the differences between crowdfunding approaches are the project founders' and supporters' objectives. Traditional investment mechanisms are used in equity and lending-based structures. Equity-based models (identical to traditional venture capital) generate a project founder–investor connection, whereas lending-based models link founders and supporters in a borrower and lender relationship. Compared with EBC, donation-based crowdfunding is the simplest kind of crowdfunding in certain respects because investors or donors receive no reward for their contributions. Funds are distributed without any strings attached to the project founders (Garvey et al., 2016; Giudici et al., 2012). Furthermore, reward-based crowdfunding is defined by the fact that project founders can provide rewards of non-monetary items of appreciation or actual things in exchange for crowdfunding contributions depending on the amount of funds invested in the project, without losing its equity (Chan et al., 2020; Mollick, 2014).

Importantly, the entire purpose of EBC is that a lot of different investors can invest small amounts of funds and the venture aggregates the investors' capital and the investors share the venture's returns. Moreover, because EBC is still in its infancy and is quickly becoming a popular method for obtaining outside capital for new ventures (Block, Colombo, et al., 2018; Rossi et al., 2019a), it would be worth conducting in-depth study on EBC to investigate the factors that contribute to the success of EBC. In the next section, I will provide a wide-ranging understanding of crowdfunding success to be used for a theoretical framework conceptual framework, methodology and data analysis.

## 2.4 Success in Crowdfunding Campaigns

This section aims to provide a wide-ranging understanding of crowdfunding success, to be used for the theoretical framework development. The theoretical framework was created with the intention of being used in a variety of crowdfunding projects.

As a result, it is important to understand the concept of crowdfunding success, which can be used to evaluate the success of crowdfunding campaigns.

There are four obvious success measures defined by Ahlers et al. (2015) in EBC: whether a project meets its fundraising target (Percentage of Fundraising raised), the number of investors a project attracted, the amount of funds raised and the speed of projects reaching its funding goal. They also point out that the speed with which projects accomplish their financing goals is critical for “high-growth” ventures as these ventures rely on rapid execution to benefit from first-mover advantages. Lukkarinen et al. (2016) defined that the Success measures of crowdfunding are to attract both a sufficient amount of funds and a large number of individual investors. Vismara (2016) applied fine-tuned Success measures of crowdfunding that indicates how much capital has been raised (when C1) or how close the campaign was to reaching the target. Ralcheva & Roosenboom (2020) defined EBC success as a binary outcome, which is driven by the ‘all-or-nothing’ rule of Seedrs and Crowdcube. Moreover, A project meets its fundraising target (Percentage of Fundraising raised) and the amount of funds raised are mainly utilised by researches in crowdfunding (Johan & Zhang, 2020; Piva & Rossi-Lamastra, 2018). D. Cumming, Meoli, & Vismara (2019) use dummy variables to measure whether a project meets its fundraising target.

#### **2.4.1 Meeting Fundraising Target of Projects or The Percentage of Fundraising Raised**

In crowdfunding using all-or-nothing mode, this measure of success is quite valuable. Projects that do not meet their financing target on these platforms are not financed. As a result, it establishes a clear line between success and failure for crowdfunding campaigns. In crowdfunding using keep-it-all mode, on the other hand, when the fundraising target is not met, the creator can still obtain funds. Thus, it is less effective for keep-it-all mode. The fundraising target becomes more ambiguous on these platforms and using this measure of success might be problematic because projects can still raise capital, but it is with an unreached fundraising target. Another aspect worth mentioning is that if two crowdfunding campaigns both meet their

fundraising target it does not imply that they have the same success. One campaign's fundraising target may be significantly lower than another's fundraising target. Moreover, campaigns may far surpass their fundraising target, resulting in significant overfunding (Butticè et al., 2020). Thus, this metric may be too narrow to capture a platform's whole spectrum of success.

#### 2.4.2 The Number of Investors A Project Attracted

When used alone, this metric of success might be flawed. Projects with more investors to support them do not always imply that more funds can be raised or that the fundraising target can be met. This variable cannot measure the whole campaign success. However, it may be used to describe how success was achieved, as a large number of investors does not always imply a successful project. The number of investors can be described as a route to success. Greater investors attracted to a project implies more attention to the project and a higher chance of achieving the fundraising goal.

#### 2.4.3 The Amount of Funds Which Were Raised

This is the most basic form of success measurement. However, various projects attempt to raise different amounts of capital. Each project has a different scope since each project has a different purpose and financing demands depending on the stage of its development. Therefore, it is difficult to say one project is more successful than another just because it raised more funds.

#### 2.4.4 Time Measurement: The Speed of Projects Reaching Its Fundraising Target

As previously stated, Ahlers et al. (2015) advocate for the use of time measures of success, the speed of projects reaching its fundraising target. This measure can be beneficial for the projects in the platform which have unlimited time and are without unique fundraising targets. On the other hand, this measure will be less effective in crowdfunding systems, which permit producers to only receive cash after completing their campaign, and campaigns may be set for varying lengths of time or creators can prolong the campaign on their own.

In light of the preceding discussion, the author will utilise these different measures to assess the success of EBC campaign: Meeting fundraising target of projects or the percentage of Fundraising raised and the number of investors a project attracted at the end of a campaign. The exact measure will be utilised in the conceptual framework, in the methodology section.

#### 2.4.5 Failure in Crowdfunding Campaign

In this section, the author will discuss the implications of failure in crowdfunding especially failing to meet a funding target in all-or-nothing platform. There is negative impact on projects after unsuccessful crowdfunding campaigns on the Kickstarter platform (Gerber & Hui, 2013). Project founders who had unsuccessful fundraising initiatives said it had a detrimental influence on their social capital since they used it to ask for support for their campaigns on social media. Only less than 5% of the project founders polled decided to restart their campaigns. Those who did relaunch, on the other hand, had a probability of around 45% of meeting their fundraising target in a send campaign. Gerber & Hui (2013) recommended that the founders took advantage of their failure to refocus their initiatives, using information gained from their previous campaign's investors. It means that even in failing in crowdfunding campaign, founders still can gather useful information and convey the crowdfunding news. This provides the probability of using crowdfunding as a marketing method (Gerber & Hui, 2013).

#### 2.5 Theoretical Framework

In earlier sections, it was noted that one of the criteria of success that may be used in all crowdfunding platforms is the success of obtaining capital relative to certain fundraising targets at the end of a crowdfunding campaign. However, a review of extant literature help to realise that there is a lack of convincing conceptual framework that can help the end users, either investors or project founders, to understand what give rise to the success or failure of EBC campaign. The next

sections build on these four topics in order to offer explicit theoretical basis for the development of the thesis's hypotheses and conceptual framework.

### 2.5.1 Crowdfunding reducing information asymmetries

#### ***Information asymmetries***

Individuals', corporations', and governments' decision-making processes are all influenced by information. Individuals make their decisions based on publicly and privately available facts, but only a fraction of the general public has access to private information. Stiglitz (2002) stated that information asymmetries emerge while various individuals are aware of different things. Since some information is confidential, there are information asymmetries between those who have it and others who may possibly make better choices if they had it. For almost a decade, traditional economic theories of decision-making processes have been built on the assumption of perfect information, which ignores such information asymmetries (Stiglitz, 2002). Despite well-known information flaws, economists had widely believed that markets with minimal information flaws would operate substantively identically to markets with perfect information (Stiglitz, 2002). Much of the study on information asymmetry about actions and intentions focuses on the use of motivations as methods for mitigating possible moral hazards caused by an individual's actions (Ross, 1977). Stiglitz (2002) emphasises two major categories of information where asymmetry is very crucial: quality of information and purpose of information. In the first scenario, information asymmetry is significant when one entity is unaware of the full qualities of the other entity. In the second scenario, information asymmetry is significant when one entity is concerned about the actions or objectives of another entity (Elitzur & Gavious, 2003). Connelly, Certo, Ireland, & Reutzel (2011) proposed signalling theory of management, which focuses on the importance of signalling in understanding how parties resolve information asymmetries concerning implicit and unobservable quality.

#### ***Information asymmetries in crowdfunding***

Because of the nature of crowdfunding, there is a great deal of asymmetry in information between project founders and investors of crowdfunding projects. Some

researchers have begun to investigate the information asymmetry issues in crowdfunding. The effect of this asymmetric information on crowdfunding has been stated by Belleflamme et al. (2013). They discovered that the quantity of asymmetric information being sent was determined by the project founders' awareness of the quality of their crowdfunding projects. The higher the project founders' understanding of the quality of their crowdfunding project, the more asymmetric information there is between project founders and investors. Moreover, Crowdfunding comprises the introduction of new products and services, which are frequently not yet in final form to the market, in circumstances full of uncertainties and information asymmetry (Belleflamme et al., 2014). In the case of crowdfunding, the project founders may be more knowledgeable of the project's underlying quality than potential investors. Moreover, investors may be at a disadvantage in terms of the project founders' reputation to create and implement the product or service as committed (Ahlers et al., 2015). Courtney et al. (2017) use information economics principles to argue that these information concerns regarding project quality and project founder reputation may be alleviated by signals and third-party endorsements. It is via a better theoretical knowledge of the technological constraints or a better understanding of the other goods and services that have an implicit impact on the quality of the new product. It means that both project founders and investors can have informational benefits.

Project functionality, physical characteristics, and project development stage may all be used to determine quality and other aspects. The degree to which potential investors have confidence in the project founder's ability to develop and deliver the promised good or service determines the project founder's credibility. In general, the functionality of a product or service and the credibility of the project founders are connected to the quality of a crowdfunding project (Ahlers et al., 2015). For investors and project founders alike, information asymmetry in the crowdfunding industry poses significant difficulties. On the one hand, unqualified investors face the risk of choosing projects that they cannot appropriately assess the prospective financial opportunities and hazards. The problem for project founders, on the other side, is to provide trustworthy information about the potential of their projects to potential



investors. Therefore, reducing the information asymmetry between project founders and investors in the crowdfunding market is crucial to the success of campaigns.

### ***Information asymmetries in traditional financing and crowdfunding***

Due to the rise of crowdfunding, there are now two separate categories of investors in the capital markets: accredited traditional investors, who tend to be major investors and investment banks, and unaccredited small crowdfunding investors. Both accredited traditional investors and unaccredited small crowdfunding investors have access to all of the necessary investing laws and information that has been published by the government and other regulatory organisations (Firoozi et al., 2016). Despite the efforts of supervisory and regulatory authorities to level the playing field in the expanding capital market, one may plausibly argue that a significant private information parity might still exist naturally between accredited traditional investors and unaccredited small crowdfunding investors.

Unaccredited small crowdfunding investors, by definition, are small investors who are less resourceful and often have fewer funds and less investment expertise than accredited traditional investors (Firoozi et al., 2016). Accredited traditional investors often have access to private resources that allow them to have a broader financial and operational understanding, allowing them to make a better risk evaluation about a proposed start-up project than unaccredited small crowdfunding investors. Such private parties have significant consequences for risk evaluation and investment strategies. A new firm often sends signals to potential investors about its management, product portfolio, marketing, and financial goals. When signals from start-up project founders are received by an average accredited traditional investor, they are more likely to be accurate and realistic than when received by an average unaccredited small crowdfunding investors (Firoozi et al., 2016).

### ***Information asymmetries and Third-Party Endorsement***

Third-party connections provide the projects with endorsements (Courtney et al., 2017). These endorsements may be eligible as a quality signal if the third party backing the projects or products is a well-established business (Stuart et al., 1999).

For example, International Organization for Standardization (ISO) quality certifications, U.S. Food and Medicine Administration (FDA) drug approvals, and bond ratings can be viewed as indicators of an individual or group of individuals or its assets' underlying quality (King et al., 2005). When the third parties are not professional and reliable organisations, certain third-party endorsements might not be considered credible. However, these endorsements might be helpful in providing specific details about a company's assets or a product's distinctive qualities. For instance, industry analyst reports on the capital market or user reviews of products posted online assist in lowering the expenses associated with searching for possible investors and customers (Courtney et al., 2017; Healy & Palepu, 2001)

For most of investors in crowdfunding, they may lack relevant financial experience and capability to assess projects (Ahlers et al., 2015). There are also systematic differences in the decision process (See Figure 9). Without a prestigious third-party agency, like the endorsement of investing bankers for IPOs and decisions in traditional financing preceded by an in-depth financial due diligence and often individual negotiation or deal-structuring (See Figure 9) (Hoegen et al., 2018), crowdfunding investors cannot depend on others (Cumming et al., 2019). Furthermore, because the investments in crowdfunding are comparatively small, individual-level incentives to perform due diligence are weak (Agrawal et al., 2014). For these reasons, there are concerns about how to effectively signal the quality of projects to potential investors.

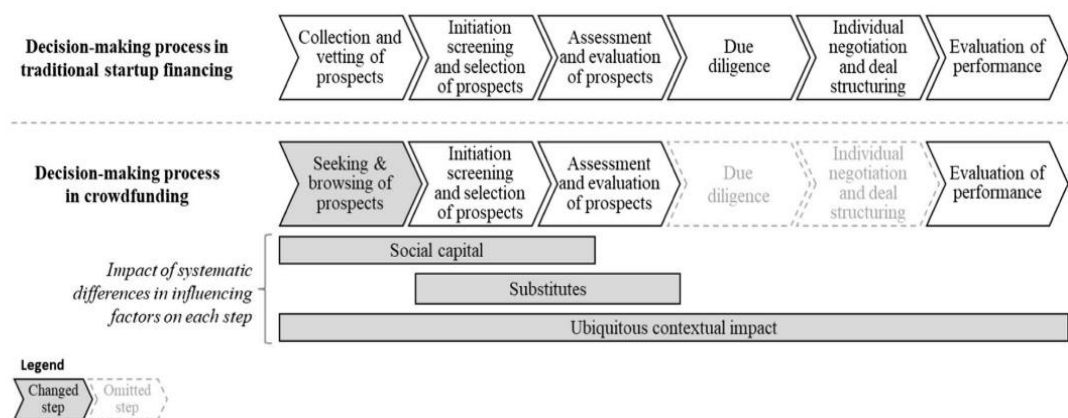


Figure 9 Comparison of decision-making process for crowdfunding and traditional start-up financing and impact of systematic differences in influencing factors on process steps Source:(Hoegen et al., 2018)

To overcome how information asymmetry might be considered in crowdfunding, a study of how traditional equity markets have solved asymmetric information was considered. One of the main difficulties for effective PE fund fundraising in an increasingly competitive market is reducing information asymmetry between institutional investors and private equity (PE) companies. Social relationships may provide a technique for reducing information asymmetry in private equity (Freiburg & Grichnik, 2012). Direct relationships facilitate the flow of information and the development of goodwill and trust. Indirect relationships convey information as well, but have little influence on trust development (Freiburg & Grichnik, 2012). Freiburg & Grichnik (2012) argue that social relationships might help to minimise knowledge asymmetry between institutional investors and private equity companies, therefore facilitating the establishment of a funding relationship. Adverse selection is one of the processes which asymmetric information affects equity markets. A situation with significant information asymmetry, such as hidden information, raises the risk of “adverse selection,” in which the VC has difficulty differentiating between excellent and poor enterprises to invest in (Glücksman, 2020). To solve adverse selection issues, investors employ processes including screening, due diligence, transaction syndication, and specialisation (Gompers & Lerner, 2004). Investment staging, legal contracts, and intensive monitoring are some of the techniques used by venture capitalists to mitigate information asymmetry risks (Glücksman, 2020). Project founders employ “signalling” methods to decrease the uncertainty and information asymmetries that venture capitalists are concerned about and venture capitalists can analyse these signals to mitigate its information asymmetry concerns. The formation of a limited company, the venture’s association with persons and enterprises of higher standing, or the management team’s educational background are examples of such signals (Glücksman, 2020).

As its core, information asymmetries have a vital link between the investor and the investee when entrepreneurial initiatives are appraised by investors. In fact, start-up firms own private information, which is difficult to evaluate by investors for investment decisions (Ewens & Rhodes-Kropf, 2015). Private information may

involve information concerning the entrepreneur's expectation toward the venture's development or the technical feasibility of the product (Esenlaub et al., 2015). So, for investors, it is hard to fully judge and understand the investee before acquiring an ownership stake and having access to a company's internals. In order to reduce the risk ex-ante, investors appraisal conducts multiple stages of venture screening in the term of due diligence, in order to gather as much private information as possible and to support the appraisal for or against an investment (Buchner et al., 2017). Another means by which investors could reduce information asymmetries is the provision of financial mechanisms in staging financing. Given that a constraint condition of project founders receiving agreed resources is to reach milestones, investors can withdraw their engagement when milestones are not reached and thus limit their investment risk (Nahata et al., 2014). However, the investor faces a problem of balance between fully understanding the business and the amount of information they receive in a short time. Considering this, an project founder seeking capital can reveal important signals that display their potential and superiority above others (Amit et al., 1998). Particularly in the early stages of a screening process, signals are an important way to limit initial information asymmetries between the investor and the investee (Gregory & O'Donohoe, 2014). Therefore, Crowdfunding as an intermedium may alleviate information asymmetries.

### ***Information asymmetry and signalling***

Asymmetrical information between two parties might result in ineffective exchanges and even market failure (Akerlof, 1978). Outside investors and supporters typically have less thorough and accurate knowledge about the prospects of the projects than the project founder does when discussing entrepreneurial finance (Courtney et al., 2017). Then, project founders confront the difficulty of convincing potential investors about the potential of the projects, while investors face the economic risk of investing in a 'lemon' (Akerlof, 1978). In order to find a solution, signalling theory proposes that the informed party (such as entrepreneurs) can transmit intangible features to the uninformed party (such as project founders) and transmit observable signals to the latter (Spence, 1973).

In the next sections, the author will discuss four theories that can assist in mitigating the adverse influence of asymmetric information in EBC, including signalling, goal setting, social capital and shareholder voting theory. In signalling theory, ventures can introduce vital information to convey or transmit unknown features to investors. In goal-setting theory ventures might express expectations to investors by their goal-setting behaviour. When combined with other factors, it may influence the outcome of EBC. In social capital theory, social network ties of ventures may increase access to resources and promote information exchange which can help mitigate the adverse influence of asymmetric information, while also aiding in gaining access to funds or identifying investment possibilities (Jääskeläinen & Maula, 2014; Y. Wang, 2016). In shareholder voting theory, ventures can indicate the quality of projects to potential investors by setting their shareholder voting right structure, which may affect the success of EBC.

### 2.5.2 Signalling Theory

To mitigate the adverse influence of asymmetric information, the more information entity might take measures to communicate the quality of its offering to the less informed entity. This signalling mechanism was originally described in the seminal study in Spence's (1973) essay on the labour market. In his development of signalling theory, Spence (1973) used the labour market to represent the signalling function of education. Potential employers are unaware of the ability of job seekers and are unable to distinguish between high and low-quality job seekers. As a result, the job seekers introduce their education background in order to communicate their quality and decrease information asymmetries. To separate themselves from low-quality job seekers, high-quality job seekers must convey some sort of signal. Lower quality job seekers would not be able to endure the rigours of higher education, thus this is probably a valid sign. A sign of job seekers that affect their employability must be out of control by job seekers to indicate (Spence, 1973). Spence's approach differs from human capital theory in that he downplays the significance of education in boosting worker productivity and instead highlights education as a method to convey otherwise unknowable qualities of the job candidate (Weiss, 1995). Thus, the signal can reduce or eliminate the information asymmetry.

The signaller, according to the foundation of signalling theory, possesses more inside knowledge that is either not publicly known or has not reached the receiver, with the signal's quality being equally important (Spence, 1973). Despite the amount of publicly available data, there is a disconnect between what is known and what may be understood from emerging signals. According to signalling theory, whether a signaller displays negative or positive information, the receiver will find it beneficial (Kirmani & Rao, 2000). The signal is either latest information or additional information that is related to the information a receiver has previously stored. For a receiver to be of interest, the signal must be of high quality in order for the signal to be meaningful (Connelly et al., 2011). As a result of the abundance of signalling and market noise, and the quest for authentic knowledge, one of the most important aspects of quality is the reputation and/or prestige of the signaller (Certo, 2003). For a receiver to respond, both the signaller's reliability and the signal must be appropriate (Black & Owens, 2011).

Kirmani & Rao (2000) give a broad example to demonstrate a fundamental signalling concept. The authors discriminate between two parties, as do most signalling examples: high-quality companies and low-quality companies. Outsiders (e.g., shareholders, clients) do not understand the actual performance of the companies in this scenario, resulting in information asymmetry. As a result, each company has the option of signalling or not signalling its real quality to outsiders (Connelly et al., 2011). When high-quality businesses have revenue A, they prefer to signal, whereas when they do not signal, they have revenue B. Low-quality companies, on the other hand, have revenue C when they prefer to signal and revenue D when they do not signal. When  $A > B$  and  $D > C$ , signalling is a feasible approach for high-quality companies. High-quality companies are encouraged to signal in these conditions, whereas low-quality firms are not, resulting in a separating equilibrium (Connelly et al., 2011). Outsiders can tell the difference between high- and low-quality companies in these situations. When both types of companies gain from signalling (i.e.,  $A > B$  and  $C > D$ ), a pooling equilibrium emerges, and outsiders are unable to differentiate the two types of firms (Cadsby et al., 1990). Some cases have been produced by

financial economists to show these broad correlations. For example, they have proposed that corporate debt (Ross, 1977) and dividends (Bhattacharya, 1979) are indicators of company quality. Only high-quality companies, according to these concepts, are able to make long-term interest and dividend payments. Low-quality businesses, on the other hand, will be unable to maintain these expenditures. As a result, external observers' assessments of a company's quality (for example, lenders and investors) are influenced by such signals. Many of the fundamental concepts and structures of signalling theory emerged from the finance and economics literatures as a result of this foundational work (Riley, 2001).

Although quality is a differentiating property in most signalling models, the concept of quality may be interpreted in a variety of ways. For the purposes of this review, quality refers to the signaller's underlying, unobservable capacity to meet the expectations or demands of a third party monitoring the signal (Connelly et al., 2011). Quality, to Spence's notable case, refers to a person's unobservable ability, which is signified by fulfilment of the academic prerequisites required for a graduate. Quality, in Ross's example, refers to the company's unobservable potential to produce strong cash flows in the future, which may be communicated by financial structure and/or managerial motivations. Quality has certain traits with concepts like reputation (Kreps & Wilson, 1982) and prestige (Certo, 2003), but I argue that these terms are primarily socially created and arise from the signaller's unobserved quality.

Signalling theory analyses different types of elements in situations and the reflection in that situations (Block, Hornuf, et al., 2018). It can be used to situations where information asymmetries exist between various parties and that need to be reduced (Spence, 1973). Selling a product may involve information asymmetries, which may be the quality of a service or product or behavioural intention between traders and customers (Block, Hornuf, et al., 2018). Information asymmetries can be effectively reduced while relatively high-quality product sellers make efforts to signal their quality to the market. "activities or attributes of individuals in a market, which, by design or accident, alter the beliefs of or convey information to other individuals in the market" (Spence, 1973).

Information asymmetries and signalling exist in commercial business and signalling plays an important role in it, as buyers are not possible to do adequate analysis on product information before they buy it (J. D. Wells et al., 2011). Researchers have stated the importance of presenting product's mechanisms in e-commerce, which include the application of certain technologies and presentation formats influencing the observing purchase intentions of consumers and their intention to return to e-commerce sites (Jiang & Benbasat, 2007). The centre of attention leads to adjust the perception, attitude, awareness, and intention of consumers (Kunz et al., 2017). The preferences of potential buyers can change the format of the product presentation and the way the information is transmitted (Kunz et al., 2017).

To some extent, EBC transactions are comparable to e-commerce transactions, especially when investors receive the equity offered by the project as a change for their financial support. The presentation of projects in crowdfunding shows important parallels to the presentation of products in e-commerce (Kunz et al., 2017). Both presentations are realised through the Internet as the medium of communication. Investors are often not only motivated by the information they will receive but also want to support the development of a product or the realisation of a project. When applying signalling theory to EBC, the parallels to e-commerce are helpful. Project founders and investors participate in a market with strong information asymmetries (Mavlanova et al., 2012). Signals, especially those referring to the quality of a campaign or product, may help to overcome information asymmetries (Spence, 1973). As projects in EBC are often of a unique nature, quality signals are important for investors to assess these projects. Project founders can send signals within the structure provided by the intermediary. The close connection between EBC and e-commerce allows me to propose a classification of signals based on the framework of website signals (Mavlanova et al., 2012). My classification consists of two dimensions: dual class share structure and product characteristics. My focus lies on signals that are quantifiable and may be associated with the success of the crowdfunding campaign.



### ***Signalling theory in crowdfunding***

E. Mollick (2014) use a database of over 48,500 projects with a total investment of more than \$237 million. Social capital, preparation, and geography are all connected with a higher likelihood of project success in reward-based crowdfunding. Preparation includes setting up a series of videos as required by the platform, verifying spelling of introduction material, and the frequency of updates. Because few ventures are successful really quick after launch, a timely update should suggest a well-prepared project founder (Mollick, 2014). Spelling problems should signal a lack of preparedness and quality as the availability of spell-checking software and the lack of appropriate proofreading implied by typos. preparedness and quality are further investigated by Huang, Pickernell, Battisti, & Nguyen (2021). Huang et al. (2021) investigate how signals of project founder credibility and project quality influence crowdfunding success in various signalling environments. Huang et al. (2021) also consider that videos and photos may have an impact on the success of a crowdfunding campaign for two reasons. To begin, the information provided through videos and photos reveals the product's technical viability and market readiness, which assists potential investors in determining the project's quality. Second, the information provided by videos and images suggests that the projects are more likely to be in the advanced stages rather than the early stage, implying that the project is more investment-ready, and hence more likely to garner crowd funding. They discovered that indications of credibility and project quality complement each other to generate successful crowdfunding campaigns. More significantly, they show that a lack of project quality does not have to be a barrier to crowdfunding success since the presence of reputation may compensate for it and they propose that the usefulness of signals for crowdfunding success is contingent on how they are configured.

The other major categories of crowdfunding can also be used to investigate signals. In EBC, Ahlers et al. (2015) first conduct an empirical examination of three different set of signals, human capital, social capital and intellectual capital. However, the amount of equity offered and whether financial projections are provided was found to have little or no significant impact on funding success and there is a similar outcome on intellectual capital (as measured by patents) and social (alliance) capital.

The number of investors backing the project was only significantly affected by human capital. The higher number of board members are also positive and significant related to funding success for both attracting a greater number of investors, and for greater funding amounts. Human capital was set by two variables, which are the number of board members and the number of board members with a degree of MBA. One potential drawback to this is that these estimates may not reflect human capital properly and that the use of different approaches may capture human capital more accurately. Moreover, this study also discusses the influence of uncertainty in EBC. The amount of equity offered is considered as information provided by the campaign and also considered as the level of uncertainty. There is a negative and significant relation between the percentage of offered equity and the expected number of investors. This research stated that the success of EBC is related to the amount of equity offering and human capital. On the other hand, many variables were non-significant in their model, indicating that the special variables utilised to represent these occurrences need to be taken into account further. Vismara (2016) further examines the signalling significance that equity retention and social capital play for external investors in EBC, by collecting a sample of 271 projects launched on the Crowdcube and Seedrs crowdfunding platforms between 2011 and 2014. Project founders that sold a smaller proportion of their company upon listing had a better chance of success with their EBC campaigns (Vismara, 2016). Moreover, social network theory applies to entrepreneurial finance. Social networks assist to minimise uncertainty and attract attention (Leyden et al., 2014). Project founders' social ties have been shown to impact venture investment decisions and assist investors decrease informational asymmetry (Shane & Cable, 2002). Supporters with larger social networks have a better chance of succeeding in the struggle for visibility. Vismara (2016) presents empirical evidence of the importance of these relationships in EBC since it aids in projects' attractiveness and so attracts more investors and funds.

Allison et al (2015) analyses a sample of lending-based crowdfunding provided to over 36,000 businesses in 51 countries using an online lending-based crowdfunding platform. They tried to get a better understanding of whether intrinsic and extrinsic

cues included in entrepreneurial stories impact investor interest to such loans. Moreover, how language signals known to impact underlying motivation might frame entrepreneurial tales as either a commercial opportunity or a chance to serve others, using cognitive evaluation theory and what effect this framing has on fundraising success in the context of prosocial lending (Allison et al., 2015). They discover that, at least in crowd-funded microfinance, intrinsic cues outperform extrinsic clues and Lenders respond favourably to narratives that frame the enterprise as an opportunity to assist others, but less favourably when the narrative is presented as a commercial opportunity (Allison et al., 2015). They propose that this is due to the relative significance of intrinsic cues among a group of lenders who are intrinsically driven and self-select into crowd-funded microfinance. Berns et al. (2020) further examine if project founders on a lending-based prosocial platform (Kiva) lend their money for altruistic or strategic reasons by using a social responsibility perspective. Moreover, both financing success and funding quantity are positively connected to statements on the lender's profile suggesting capacity to pay (Berns et al., 2020). While altruistic narrative may speed up the process of obtaining full financing (for projects that have been financed), they do not always lead to full funding instantly (while looking at the universe of project founders that are looking for finance). Additionally, while strategic language may prolong the time it takes to get complete financing, strategic quality signals result in a greater rate of full funding (Berns et al., 2020). Furthermore, Cappa, Pinelli, Maiolini, & Leone (2021) explores how two narrative styles “results in progress” and “ongoing journey” as well as the project founder's reward-based crowdfunding experience affect the success of reward-based crowdfunding and show that reward-based crowdfunding campaigns that use results in progress narrative styles rather than ongoing journey narrative styles, have a higher success rate in raising donations. These two characteristics interact in the total effect on successful reward-based crowdfunding fundraising, showing that project founders with significant reward-based crowdfunding expertise obtain higher investments by using ongoing journey tales rather than results in progress narratives (Cappa et al., 2021). The findings of this study contribute to a better theoretical knowledge of reward-based crowdfunding success determinants and give reward-based

crowdfunding project founders advice on which narrative style to use based on their degree of competence.

Project project founders plan and create their campaign in the beginning by taking several aspects into account, for example, how long a campaign will run or how many equities will be offered. Immediately at the start of the campaign, these signals will be displayed to the investors. These and other signals sent by the founders during the funding phase should help investors to evaluate a campaign and make their investing decision. The founders can send signals in the form of project updates while the campaign is running and after. Even in the post-funding phase, the founders can send signals, for instance on the project realisation progress or changes. Project founders need to provide these details at the beginning, prior to the start of the campaign. All of these details can then be assessed by the investors at the beginning of the campaign. The author further examines the signals only in the phase in which they predominantly appear.

### 2.5.3 Goal Setting Theory

The link between goal setting and performance level is revealed by this theory. According to the theory, motivations are created from tough-to-complete targets, and the harder the targets are, the greater performance they may accomplish (Locke & Latham, 1990). When tough targets are chosen, performance improvements are greater than when simple goals are chosen. The external stimulation has an impact on motivation, which is attained through the achievement of a target. The goal limits the goal-linked behaviours. People adapt their own efforts to attain the ultimate outcome of the action based on the difficulty of the objective. There are four primary goals of the theory's mechanisms, the indicator role, dynamic effect, influence on behaviour persistence, and indirect influence behaviour respectively. People's expectations are shaped by their aims. Difficult targets may produce a positive attitude among investors if they believe the target can be achieved given the work made thus far (Lunenburg, 2011). Difficult targets may achieve mobilising energy, cause more effort to be put in, and raise the amount of effort that is put in over time (Lunenburg, 2011). Goals inspire people to devise methods that will help them to

achieve the desired results. The positive attitude promotes consistent commitment to greater performance by increasing energy, eagerness, optimism, and perseverance and negative attitude reduces motivation and commitment (Z. Li & Jarvenpaa, 2015). Difficult targets have a negative attitude if backers believe they are growing more difficult to achieve (Locke & Latham, 2002). Finally, achieving the objective can lead to fulfilment and increased motivation, while failure to achieve the goal can lead to dissatisfaction and decreased drive. Thus, goals must be difficult but attainable.

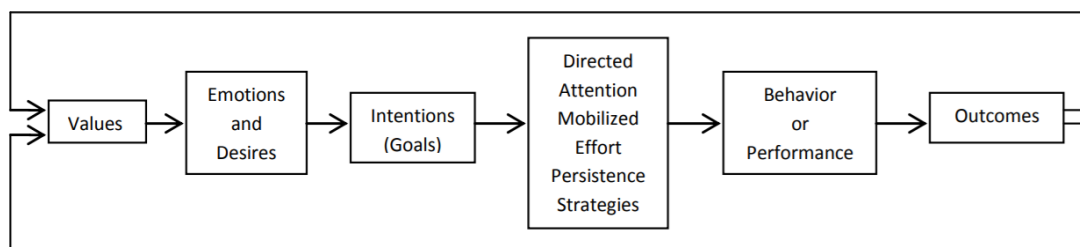


Figure 10 General model of goal-setting theory Source: (Lunenburg, 2011)

The theory also involves feedback, which refers to the receiving of various types of information on one's own behaviour (S. Liu et al., 2020). Individuals may get a clear sense of the gap between themselves and their goals by feedback, such as whether they have finished the goal, how much work is required to achieve it, and if the effort is being directed in the right way. The individual is informed about the feedback's actual implementation. As a result, the author believes that determining the goal amount is one of the most essential elements influencing interest in the project. Assume that the essential characteristics of an EBC project are controlled, the relationship between various elements and the crowdfunding outcomes may be influenced by the project's target amount.

#### 2.5.4 Social Capital Theories

Social capital stems from the human network of relationships and embraces all of the resources that may be obtained through it (Burt, 1992; Coleman, 1988; Nahapiet & Ghoshal, 1998). Social capital may be defined as the ability to use goodwill produced within the network of social interactions to assist actions arising from those

relationships (Adler & Kwon, 2002). Social capital allows for the exchange of knowledge (Burt, 1992; Nahapiet & Ghoshal, 1998). It has been discovered to be a very relevant success determinant (Oh et al., 2005).

Coleman (1994) described social capital just like any feature of a social structure that contributes and facilitates the activities of the persons who are a part of such social structure. Just like physical capital is generated via improvements in resources to improve productivity, and human capital is generated through improvements in a person's skills and capacities, social capital is generated when interpersonal relationships develop in terms of facilitating instrumental activity (Coleman, 1994). Researchers in social networks have made significant progress in formalising and experimentally testing hypotheses linked to the concept of social capital. Relationships, or connections, are regarded as fundamental data for social network researchers. A network is a pattern of relationships that connects a certain group of people or social actors. Each individual may be defined in terms of his or her connections to other persons in the network (Seibert et al., 2001). The focus individual in such an analysis (typically the one giving the data) is referred to as "ego," and others to whom he or she is linked are referred to as "alters." (Knoke & Kuklinski, 1982).

Weak tie theory was the first effort to conceptualise social capital (Granovetter, 1973), and places emphasis on the intensity of an individual's social connection utilised in the job-search process. Granovetter (1973) suggested that links between members of a social group are likely to be strong (described as emotionally engaging, regular, and involves many sorts of connections, such as friendships, advisers, and co-workers). The knowledge held by any one participant of the group is expected to be quickly shared or already duplicated with the information held by the other participants. But relationships that extend outside one's social circle are more inclined to be weak (that is, not too emotive, rare, and limited to a single form of connection) than strong. Weak relationships frequently serve as a link between highly interrelated social groups, providing a source of unique knowledge and resources (Granovetter, 1973). Moreover, Granovetter (1973) discovered that weak links were more likely than deep links to be the sources of job opportunity

information for the samples of job incumbents he questioned. Subsequent research has offered conflicting evidence for the weak connection concept (Bridges & Villemez, 1986; McPherson et al., 1992).

Structural holes approach to social capital emphasizes on the patterns of relations among the alters in ego's social network rather than the qualities of ego's direct links (Burt, 1992). A structural hole is said to exist between two alters who are unrelated to one another. According to structural holes theory, it is favourable for ego to be linked to a large number of alters who are not related to the other alters in ego's networks (Burt, 1992). Burt (1992) states that networks with structural holes get a person with 3 main advantages: more distinctive and prompt access to information, greater negotiating influence and thus greater control over resources and results, as well as increasing awareness and career opportunities throughout the social structure. Burt (1992) criticised weak tie theory, claiming that the structural hole theory more clearly explains the connecting property of links than the weak tie theory and thus offers a better base for theory and clearer advice for empirical research. Early empirical evidence has been favourable to structural holes theory, but it has also listed a number of constraints that restrict the applicability of theory (Burt, 1992; Podolny & Baron, 1997). For now, the influence of the proposed explanatory processes, such as obtaining information, negotiating control, and referral, have not been studied.

Social resources theory is the third main theoretical approach to conceptualising social capital (N. Lin et al., 1981). The nature of the resources contained inside a network is the subject of social resources theory. N. Lin et al. (1981) suggested that it is not the weakness of a relationship in itself that confers benefit (nor, by extension, the connecting feature of weak links), but rather the fact that such ties are more likely to obtain someone with the sorts of resource necessary for ego to accomplish his or her instrumental aims. A social resource is an alter who owns qualities or maintains resources that are beneficial in achieving the aims of ego. When examining an ego's pursuit of instrumental professional objectives, for example, alters who give career development suggestions and assistance are the relevant social resource. N.

Lin et al. (1981) found that tie strength was inversely associated to the alter's professional status which means that weak relationship attains a greater level of status and also revealed that the alter's occupational status was positively connected to the ego-secured job's reputation.

### ***Social network sites and social network ties***

The majority of social capital is entrenched in social networks (Estrin et al., 2013; Nahapiet & Ghoshal, 1998; Tsai & Ghoshal, 1998). These social network ties increase access to resources and promote information exchange in three ways: access, time, and referrals (Troise et al., 2020). Furthermore, network ties aid in gaining access to funds or identifying investment possibilities (Jääskeläinen & Maula, 2014; Y. Wang, 2016). Project founders typically use their own social network to raise capital for their businesses (Colombo et al., 2015; Mollick, 2014; Vismara, 2016) When seeking investment, one of the first components they use are social networks, which increase both the number of connections and the venture's recommendation (W. Stam & Elfring, 2008). These networks play an important role in the entrepreneurial finance environment because they decrease uncertainty (Leyden et al., 2014) , reduce risk and influence financial decisions (Shane & Cable, 2002). Social networks have a signalling role (Vismara, 2016), and numerous researchers have utilised social network links to construct social capital proxies (Colombo et al., 2015; Mollick, 2014). Moreover, for a cooperation, to improve a company's strategic posture, strategic communication involves conveying the company's entire business strategy (Argenti & Robert, 2005) and meticulous employment of numerous communications and signalling methods in order to accomplish its objective (Hallahan et al., 2007). Strategic communications include textual, verbal, marketing, and metaphorical information that links the gap from the company to stakeholders (Grunig, 2006).

One of the major networks used in the study of social capital in crowdfunding are web social networks or social media sites, such as Facebook, LinkedIn and Twitter, where two individuals are linked if they know each other. Social media has been used by governments for transparency and collaboration (Avery & Graham, 2013), firms responding to customer complaints; (Bach & Kim, 2012) and influencing customer



opinions through corporate social responsibility (CSR) (Bachmann & Ingenhoff, 2017; Coombs & Holladay, 2009).

### ***Social interaction***

Coleman (1988) argued that social capital is formed via intensive social contacts among actors, which is a representation of the structure feature of social capital. Social interactions are important for a company's success since they encourage sharing of resources and innovation of products (Choi & Lee, 2003; Tsai & Ghoshal, 1998). Such interactions have an impact on company performance and strategy, as well as imparting social position (Burt, 1992; Nahapiet & Ghoshal, 1998). Social interactions serve as a conduit for knowledge and resources to circulate through the community (Kang et al., 2016). These interactions are connected to both the frequency of communication and the amount of time spent by users (Troise et al., 2020). In open innovation environments, social interactions among users are valuable (Troise et al., 2020). Online platforms are defined by social interactions and facilitate the formation of digital environments (Olanrewaju et al., 2020).

### ***Social network on crowdfunding***

Social capital been used to study other crowdfunding models (Mollick, 2014; Ordanini, Miceli, Pizzeti, et al., 2011) . In EBC, social capital has been approached using both social network (Nitani et al., 2019; Vismara, 2016) and signalling theory (Ahlers et al., 2015; Block, Colombo, et al., 2018). The multidimensional social capital (cognitive, relational, and structural) (Coleman, 1988; Tsai & Ghoshal, 1998) has been adopted in management studies (Nahapiet & Ghoshal, 1998; Tsai & Ghoshal, 1998), information systems research (Chiu et al., 2006; Wasko & Faraj, 2005) and recently crowdfunding (Zheng et al., 2014).

EBC platforms are popular online information mediators that assist project founders and their businesses in developing interpersonal communities (Kang et al., 2016). These platforms enable users to connect using particular tools (for example, social networks) as well as dedicated forums or microblogs (C.-L. Hsu & Lin, 2008) to interact and exchange information (Vismara, 2016; Xu et al., 2016; Zheng et al., 2014).

These social interactions benefit both parties; on the one hand, investors increase their understanding of the venture's competence, and on the other, companies build relationships with the public in order to assist them to comprehend the programmes (Ahlers et al., 2015). Companies employ social networks such as Facebook, LinkedIn and Twitter to disseminate various forms of news or information about their company, as well as an overview of their operations, in order to entice some interested individuals (Lovejoy et al., 2012). Interactions between the company and the public, as well as the associated information flows, take place in the virtual world and are posted on the company's social media profile for its followers to review (Troise et al., 2020). The community of participants can take a particular activity to indicate their support to a project and receive access to its updates, which is achieved by hitting the bottom/icon to follow. These activities emphasise social interactions and help businesses increase the project's attractiveness (Troise et al., 2020). Even in EBC, investing choices are frequently on trust established via past social encounters (Kang et al., 2016; Mollick, 2015; Vismara, 2016). Companies use social networks to disseminate information and connect with other entities. If the company has a large number of interactions via their social media, it might have numerous advantages in terms of project results, such as the number of investors who contributed financial resources in the projects and a high percentage of financing received at the end of the campaign.

### 2.5.5 Theories of Shareholder Voting

#### ***From One share, one vote to decoupling of voting rights and cash flow rights***

Several articles explore the fundamental contractarian theory of the corporation and the associated argumentation for the efficiency of a one-share, one-vote capital structure (Easterbrook & Fischel, 1996). One component stems from hostile takeovers in the 1980s and places emphasis on the function of a one-share-one-vote policy to support the markets for corporate control (Grossman & Hart, 1988; Harris & Raviv, 1988) and the capacity of large shareholders to affect management of the company (Shleifer & Vishny, 1986). Because of the ability of big shareholders to influence management and hostile takeovers under a one-share, one-vote capital structure, insider-controlled companies employ a separation of ownership and

control structure to preserve control. Equity ownership involves two distinct rights: the right to earn capital gains, dividends, and other pay-outs from the company, or the opportunity to access in corporate governance through shareholder voting right. The two components are frequently referred to as cash flow rights and voting rights. The distinct values of the cash flow right and voting right components has become a key empirical research topic. Establishing the value of voting rights would aid in quantifying the general relevance of corporate governance as a factor influencing company value. Some research has suggested that the value of voting rights is very minimal, at least under normal business situations where control of the firm is not at stake, as detailed below.

Beginning with Grossman & Hart (1988) and Harris & Raviv (1988), Several theoretical works examine the costs and advantages of separating voting rights from cash flow rights. Almeida & Wolfenzon (2006) and Masulis, Wang, & Xie (2009) consider the situation of pyramidal business groupings. Studies in the laws and finance literature imply that more financial ownership by insiders (such as executives, managers or broad members) should result in less tunnelling and higher company value (Durnev & Kim, 2005). A significant disparity between insiders' voting rights and economic ownership might potentially impact their investment decisions (Bebchuk et al., 2000). However, decoupling might result in a number of efficiency benefits. Insiders are frequently undiversified, making them resistant to firm-specific risk (Hu & Black, 2007). Greater capacity to hedge economic ownership may lead to their being more inclined to accept riskier positive net present value activities while being less likely to participate in value-reducing hedging inside the business (Hu, 1990). Dual-class share structures might also allow controlling owners to explore growth possibilities that they might instead pass up if compelled to choose between the opportunity and the risk of losing control (Gilson, 1987). These structures could also make it possible for companies to focus on long-term investments with uncertain payoffs for outside investors (DeAngelo & DeAngelo, 1985). A third main investigation focuses on legislative norms that encourage or restrict the discrepancy between insiders' income and voting stakes (Hu & Black, 2007). Morck, Wolfenzon, & Yeung (2005) believe that inequality allows a single investor or family to dominate

a big corporate group, acquire political power, and, in extreme cases, they can capture the company. This strand considers the inequality in insider economic ownership and control to be endogenous to other national-level institutions (Pagano & Volpin, 2005).

### ***The value of voting rights***

Much of the existing empirical research on the value of voting rights focuses on small samples of companies with several classes of common stock listed and trading on a major market. Typically, these shares will have varying degrees of voting power, with high-vote shares controlled by management and/or the firm's founding family. These articles try to isolate the market price of a voting right by comparing the various market values of high-vote and low-vote shares issued by the same business and correcting for any differences in dividends.

Cox & Roden (2002) Compare the relative values of high-vote and low-vote shares in dual-class businesses in the United States. They discover that when owners of low-vote shares get greater dividend payments, the voting premium on high-vote shares may be decreased. However, for the considerable number of dual-class companies in the United States, the cash flow rights for the two (or more) share classes are identical, and only one share class trades on the open market. This is still the case when a company goes public with dual-class shares. Moreover, evidence of a voting premium between the two publicly traded share classes relates to the allocation of company value across various shareholder groups, but it does not indicate that dual-class structures diminish overall value of the company (Smart et al., 2008). The literature on the value of voting rights provides a sense of how much of a company's value is at jeopardy when voting is not cast (Hu & Black, 2007). Cross-country studies (Dyck & Zingales, 2004), they find that control has a significant value, perhaps as much as 50% of the company's value. The average value of control in the United States is 2–4 percent of firm value (Nenova, 2003), although it may be substantially greater in specific control conflicts (DeAngelo & DeAngelo, 1985; Zingales, 1994). High-vote shares generally traded at a 5–10% premium over low-vote shares in US companies with dual-class structures (Lease et al., 1983; Zingales, 1994). Outside of

the United States, the price gap between high- and low-vote stocks can be substantially greater (Levy, 1983; Zingales, 1994). However, the price premium connected to high-vote shares understates the value of control since controlling shares rarely trade.

Kalay & Pant (2009) do a review of the existing research, which includes about 10 papers that have been reported to date. They discover positive and statistically significant average premiums for higher-vote shares in general. Because companies that decide to use dual-class equity structures could be those in which voting rights are most valued, this result is susceptible to a number of limitations, including the sample selection bias inherent in the data. Probably the two most important papers in the area are a tandem by Zingales (1994). Zingales (1994) stated that voting shares of Italian listed firms on the Milan share market are priced higher of more than 90% above nonvoting shares issued by the same firms. When the same question is asked about publicly traded companies in the United States, it is discovered that premiums for high-voting stock are much lower and often differs from nil, other than in cases where control of the company is questioned (or is likely to be questioned), in which situation premiums can be rather huge (Zingales, 1994). These findings show that the value of corporate votes is strongly influenced by market conditions in either the short or long run (Yermack, 2010). Voting rights become valuable in the short term when the business's control is put into play, and they become valuable in the long run if the firm is chartered in a state or nation that allows significant extraction of private advantages of control (Yermack, 2010).

### ***Voting right in equity-based crowdfunding***

Asymmetric information is extremely severe in EBC, as they are in any entrepreneurial financial markets, resulting in adverse selection issues. With less knowledge than project founders, potential investors determine whether to invest on stocks (Shane & Cable, 2002). Crowdfunding investors are often inexperienced and unable to assess investment possibilities (Ahlers et al., 2015). They are unable to rely on third-party verification, such as that offered by famous underwriters in initial public offerings (IPOs) (Cumming et al., 2019). Furthermore, because to the modest

size of the investments, individual incentives to conduct due diligence are limited (Agrawal et al., 2014).

There may be agency issues between majority and minority shareholders after the campaign. Certainly, the majority of the company's shares are likely to be owned by the founders, with each crowdfunding participant owning a modest portion. The average stock percentage provided to crowdfunding investors is about 13% (Vismara, 2016). The founders retain control of their firm even after the campaign is completed since they are majority shareholders. Majority shareholders' interests may or may not be consistent with minority shareholders' interests. When majority owners use their voting right to make choices that do not benefit minority shareholders evenly, principal-principal disputes develop. Majority shareholders, for example, may utilise their voting power to benefit themselves at the detriment of other shareholders (Hart, 1995). Furthermore, because voting rights are associated with value, shares with voting rights are valued greater than shares without voting rights. As a result, there are issues regarding how to properly indicate the quality of projects to potential investors and how voting rights affect the success of EBC campaigns.

Some crowdfunding studies have focused on how to vote correctly. Rossi et al. (2019) conducted a cross-platform analysis of 185 investment-based crowdfunding portals from Australia, Austria, Canada, France, Germany, Italy, New Zealand, the United Kingdom, and the United States, revealing a wide range of corporate governance mechanisms, particularly in the delivery of voting rights. Some platforms provide ordinary investors voting rights, some use a nominee system, while yet others need accredited investors to participate in order to list offers (Rossi et al., 2019a). Rossi et al (2019) discovered that delivering individual voting rights is related with a reduced likelihood of platform success but delivering pooled voting rights is not.

Using a sample of 491 offers on the UK platform Crowdcube from 2011 to 2015, D. Cumming et al. (2019b) investigated dual-class EBC as a digital ownership structure for the first time. Firms can define an investment threshold below which no voting rights are provided, making the issue of Class A vs. Class B shares dependent on

individual investors, which is special in this situation. D. Cumming et al. (2019b) discovered that a greater gap between ownership and control rights reduces the possibility of the campaign's success, as well as the likelihood of attracting professional investors and long-term prospects. Moreover, Professional investors, unlike small investors, are concerned about the establishment of a voting rights threshold and frequently bid the Class A barrier exactly (Cumming et al., 2019). As previously stated, the author will incorporate voting rights as an essential component into models in order to examine the influence of voting rights on EBC campaigns.

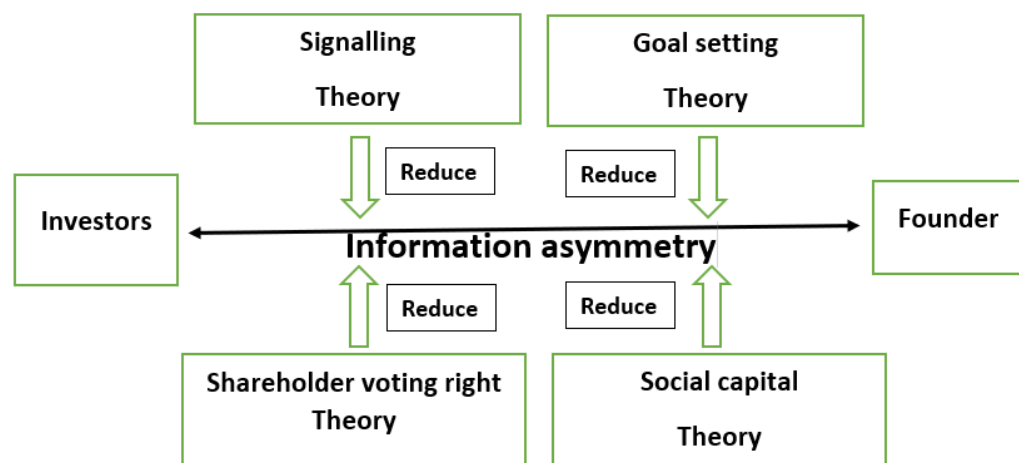


Figure 11 Theoretical framework

## 2.6 Summary

In this chapter the key theories related to crowdfunding across the different subdivisions are critically discussed. Building upon extant theories, a theoretical framework (See Figure 11) is developed that is to be the foundation of the conceptual framework of EBC. Information asymmetries and signalling exist in commercial business and signalling plays an important role in it, as buyers are not likely to do adequate analysis on product information before they buy it (J. D. Wells et al., 2011). Signalling theory would be used as a fundamental base in the framework, assisting the author to identify the key factors of successful EBC campaign and other theories. According to the goal setting theory, motivations are created from tough-to-complete targets, and the harder the targets are, the greater performance that may be accomplished (Locke & Latham, 1990). The external stimulation has an impact on

motivation, which is attained through the achievement of a target. The goal limits the goal-linked behaviours. Thus, the goal setting theory assisted the author to develop the conceptual framework and hypothesis in the influence of setting target signal in EBC campaign. In social capital theory, Social capital been used to study other crowdfunding models (Mollick, 2014; Ordanini, Miceli, Pizzeti, et al., 2011) . In EBC, social capital has been approached using social network (Nitani et al., 2019; Vismara, 2016), assisting project founders and their businesses in developing interpersonal communities (Kang et al., 2016). Thus, social capital theory assisted the author to study the signals of social media and team members in EBC campaign. In the shareholder voting right theory, it is a part of the fundamental contractarian theory of the corporation and the associated argumentation for the efficiency of a one-share, one-vote capital structure (Easterbrook & Fischel, 1996). There is a price gap between high- and low-vote stocks in public market (Levy, 1983; Zingales, 1994). It assisted the author to consider how voting rights affect the success of EBC campaigns. Therefore, the key theories related to crowdfunding, including signaling theory, goal setting theory, social capital and shareholder voting vote theory, are the fundamental base of the conceptual framework of EBC. Moreover, the theoretical framework also assists the author in delving deeply into the complicated interrelationships across ideas (See Figure 20), such as the link between goal setting and social capital, to mitigate the adverse influence of asymmetric information in EBC campaign. In the following chapter, the conceptual framework and hypothesis will be discussed in depth.



### 3 CONCEPTUAL FRAMEWORK AND HYPOTHESIS

In the last chapter, the underpinning theories that form the foundation of this project were critically discussed. Taking this forward, a project conceptual framework and hypothesis will be developed in this section.

#### 3.1 Project Characteristic Factors of Crowdfunding Campaign

##### 3.1.1 Firm Age of Projects in Crowdfunding Campaign

Examination of one of the specific factors in this section is the firm age of projects. The firm age is considered as a signal of the quality of the Crowdfunding firm. This author suggests that the earlier firm's incorporation date in projects would be a positive signal for the quality of project. Firm age is likely to be a positive signal in Crowdfunding in term of firm experience and business growth. Many researches using company age link with company growth as one of an explanatory factor for their company growth regression model and find that younger companies are usually associated with better expected growth rate (Lawless, 2014). Moreover, young Crowdfunding companies are more likely to deal with the liability of newness and increase the probability of success in an unaddressed niche, leading to higher growth rate in that niche market (Shrivastava & Tamvada, 2019). P. Gompers, Kovner, Lerner, & Scharfstein (2010) examined how experience impacted team member' ability to go public with their start-ups. Therefore, the author argues that the higher firm age in EBC may be higher probability of success on Crowdfunding campaign.

##### 3.1.1.1 Relationship Between Firm Age and Business Growth

Firm age can be related to firm growth. Importantly, the issue of age and size as drivers of company growth has long been investigated in the literature since the creation of 'Gibrat's Law' (Gibrat, 1931). According to Gibrat's statement, a firm's rate of growth is irrespective of its size at the start of the period, and the likelihood of a particular growth rate within a specified time interval is the same for any organisation in the same field. However, the growth influences of age on business growth are varied (Davidsson et al., 2010). As a result, firm age might have to be considered as an independent element for investors when selecting a project with a

greater prospective growth rate. According to some small company survival literature, younger firms in their early years are more likely to deal with problems of survival rather than plans of development if they do not collapse within the first few years of operation (Cowling, 2006). Seed and early-stage companies should be riskier than growth stage companies. As a result, most investors may prefer to participate in a project that is comparatively mature and safer.

On the other hand, older firms may also suffer from 'liabilities of age', such as the owners' lower commitment and involvement compared to young firms (Lewis & Churchill, 1983), and a firm's performance is usually found to be diminishing as the firm ages (Chandler & Hanks, 1994; Durand & Coeurderoy, 2001; Nunes et al., 2013). Haltiwanger, Jarmin, & Miranda (2013) have conducted research to reconcile the contradictory empirical results. They find that, while both size and age should be taken into account, age is more important in terms of job growth patterns. They discovered that once firm age was taken into account, the negative connection between size and growth vanished. Their findings basically contradict previous theoretical and empirical work that focuses solely on size, believing that being small is the key to job creation, and ascribe the debate on size and growth to potential omitted variables bias caused by not controlling for company age (Nunes et al., 2013). They emphasise the importance of new ventures in the sense that young companies are important sources of development, even if they are small companies in most situations. As a result, in the young companies, business growth should be favourably related with age. However, from a learning standpoint, company performance is expected to increase as both the firm and team members get older and therefore more experienced (Vassilakis, 2008).

#### 3.1.1.2 Relationship Between Firm Age and Firm Experience

Firm age can also be a signal of firm experience. Business performance is expected to increase as the company and team members become older and therefore more experienced (Vassilakis, 2008). The length of time may be considered as a signal for the company's experience. The amount of time a firm has been in operation may also inform a potential investor more about the company, allowing them to socially

identify with various elements of it. Much of a team member's or company's perceived image is built up over time via continuing engagement with numerous stakeholders (Brewer & Gardner, 1996). However, there are other reasons why firms that have been in operation for a number of years may attract investment, such as the perception that they are steady or that they are making an attempt to keep potential consumers interested (Nevin et al., 2017).

Moreover, the volatility of economy may exist from the time of a company incorporation. Economic downturns are a typical environmental stress factor for small business owners. A company's older age might inform a potential investor more about the company's ability to overcome economic downturns. Small businesses, unlike major corporations, react differently when presented with the problems of an economic crisis (Latham, 2009). Smaller companies face a higher threat from recession than bigger organisations since larger firms have a competitive advantage resulting from economies of scope and scale (Dass, 2000; Porter, 1980). As a result, small companies' major priority during the crisis is survival (at least during the short run). And, in order to do so, small firms must slash costs, but at the risk of decreasing their capacity. As a result, it may reduce their ability to react properly when the economy recovers (Kitching et al., 2011). On the other hand, small companies' structural and organisational flexibility (Dean et al., 1998; Reid, 2007) may bring leverage against bigger companies during the economic downturn. Periods of economic downturn provide new opportunities for companies (Parker et al., 2012; Schumpeter, 2010) to pursue growth-oriented tactics, and they are more inclined to incur greater short-term expenses in order to retain the capability to adjust when the recovery arrives and achieve prospects for long-term wealth development (Kitching et al., 2011).

During these times, members of the company's team learned various and particular skills. Experienced team members can help the firm achieve project success. P. Gompers et al., (2010) investigated how team members' capacity to go public with their start-ups was influenced by their experience. They discovered that team members who had previously gone public had a 30% probability of going public again,

compared to an 18% chance for first-time enterprises. This evidence is supported by the argument that many characteristics of being a project founder can only be learned via experience and team participation. As a result, experienced team members have learned specialised abilities that will help future start-ups succeed (Packalen, 2007). One of the potential benefits of these specialised skills is the ability for team members to adjust to the changing business environment around the start-up. As a result, this concept, the length of time a business has been in existence, may be used to the research of Crowdfunding, arguing that companies are more experienced if they have incorporated for a longer period of time than those that have formed for a shorter period of time on Crowdfunding and team members gain particular abilities through experience, which will help them to be more successful in the future. Moreover, older companies may have more social media channels, but it depends on the strategy of the company's marketing and their industry. Some of them may prefer to put more resources into marketing.

#### 3.1.1.3 Hypothesis

Business age is a critical determinant for investors. Many studies use the relationship between business age and company growth as one of the explanatory factors for their company growth regression model, and they discover that younger companies are generally linked with higher projected growth rates (Lawless, 2014). Moreover, young crowdfunding firms are more likely to deal with the risk of newness and enhance the likelihood of success in an untapped niche, resulting in a greater growth rate in that niche market (Shrivastava & Tamvada, 2019). Some researchers found that business age, rather than company size, might be a better explanatory component to a firm's growth rate. When adjusting for business age, there is no substantial link between firm size and company growth (Haltiwanger et al., 2013). The variation of a company's growth rate decreases as the company's age decreases (Dunne et al., 1989). According to some studies, young companies have the same decline in growth rate as old firms; nevertheless, young companies are likely to experience quicker growth rate than old firms in terms of the influence of age on growth in the growth rate distribution (Coad et al., 2018). Controlling the parameters of employment, revenue, labour productivity, and value added, youthful companies

outperform other firms in terms of growth (Daunfeldt et al., 2014). Coad et al. (2018) offer evidence that new businesses have a burst of growth immediately after arrival by analysing the difference in growth rate with changes in firm age, as well as the autocorrelation variations of growth rate and company age. Furthermore, companies in the seed and early stage should be riskier than those in the development stage. As a result, most investors may prefer to participate in a project that is reasonably safe. With prior contributions, the author suggests that the age of a business before embarking on a Crowdfunding campaign may be a key consideration for Crowdfunding investors. As a result, it might be a good predictor of campaign success. The above arguments lead to hypothesis:

H1: Equity-based crowdfunding project's firm age is positively correlated with the funding they obtained in the Equity-based crowdfunding campaign.

### **3.1.2 Team Member of Projects in Crowdfunding Campaign**

Examination of one of the specific factors in this section is the number of team member of projects. The number of team member is considered as a signal of the quality of the Crowdfunding firm. The author suggests that more team members in projects would be a positive signal for the quality of project. One area of concern for new start-ups is that they do not have a track record of previous performance or have limited records. To reduce this concern, investors on EBC platforms may hope to gather information about the team. Human capital attributes have typically been considered as an important determinant for the success of a new start-up (Florin et al., 2003). Therefore, the author argues that the higher number of team members in projects on EBC may indicate higher probability of success on Crowdfunding campaigns.

#### **3.1.2.1 Team Member and Human Capital**

One source of concern for investors is the high level of uncertainty surrounding new start-ups, which lack a track record of prior success or have a limited track record. Investing in new ventures is typically seen as a risky activity due to higher information

asymmetry issues. To alleviate this issue, investors on EBC platforms may seek to acquire team information (such as the number of employees) as a proxy for the human capital quality of a company. Many investors feel that young individuals are more likely to launch successful new companies. Human capital characteristics have always been seen as a key predictor of the success of new ventures (Florin et al., 2003) as well as the most important selection factor for professional investors such as business angels and venture capitalists (Ralcheva & Roosenboom, 2020). Moreover, empirical evidence reveals that stronger human capital is associated with excellent outcomes in several elements of start-up companies (Colombo & Grilli, 2010), including access to extra resources (Baum & Silverman, 2015) and the success of EBC campaign (Piva & Rossi-Lamastra, 2018). Other studies look into the connection between the existence of a large crowdfunding team and the successful completion of a funding round (Ahlers et al., 2015; Hornuf et al., 2018; Lagazio & Querci, 2018; Piva & Rossi-Lamastra, 2018). New ventures managed by a big management team rely on a larger network of contacts as well as more diversified capabilities. The presence of a strong management team is especially crucial for new businesses since it enhances the company's legitimacy (Cooper et al., 1994).

Human capital of team members is not only a vital indication for professional investors (Robb & Robinson, 2014), but it is also an effective signal for nonprofessional Crowdfunding investors (Cumming et al., 2012). Indeed, professional investors are more likely to use their capacity to analyse each member of the Crowdfunding team in depth and to appraise the complementarities of its members' human capital (Kaplan & Strömberg, 2004). However, because amateur crowdfunding investors lack the investing experience to evaluate the team individually, it is a better decision to conduct a comprehensive review of the whole Crowdfunding team. Moreover, successful Crowdfunding happens disproportionately in new ventures with a large number of team members and a large number of photographs, leading to the conclusion that the number of team members and directors has no significant influence on successful Crowdfunding campaigns (De Crescenzo et al., 2020).

### 3.1.2.2 Team member and information asymmetries

Investors confront an information asymmetries challenge when determining business quality while making investment decisions. Young crowdfunding companies typically have limited information about them, such as a track record, a high proportion of intangible assets, particularly in high-tech companies, a lack of internal funds, and a low debt capacity due to a low proportion of tangible assets, making it difficult for normal investors to scrutinise properly and effectively. Indeed, there is a large amount of information asymmetry between investors and Crowdfunding companies, as well as a high danger of moral hazard behaviour on the part of the project founders (Ahlers et al., 2015; Vismara, 2016). If the project founder exhibits any moral hazard behaviours, they may not put in the essential effort in the firm and may not drive project success in order to maximise investors' wealth (Amit et al., 1998; Strausz, 2017). Moreover, information asymmetries can be reduced through signals that allow potential investors to differentiate the company's quality (Connelly et al., 2011; Dewally & Ederington, 2006; Spence, 1973). When making selection decisions, investors are likely to rely on signals to distinguish between high and low-quality companies (Baum & Silverman, 2004; Bertoni et al., 2015; Puri & Zarutskie, 2012). For instance, patents (D. H. Hsu & Ziedonis, 2013), founder's education (Davidsson & Honig, 2003), top management team characteristics (Baum & Silverman, 2004; D. H. Hsu, 2007), board governance (Sanders & Boivie, 2004), and venture's affiliations (Plummer et al., 2016) are used as signals by investors.

### 3.1.2.3 Team Member' Experience, Business Performance and Development

According to a review of the research on small business performance, human capital is generally positively related to success (Unger et al., 2011). Cowling (2006) divided human capital of new companies into two categories: formal and informal. The former is generally represented by the founder's education degree, while the latter is typically represented by characteristics such as the founder's age, health, family, and past experience. In terms of formal human capital, a number of empirical studies provide pretty good empirical support for the assumption that firms with more educated team members have higher early-stage growth (Dimov & Shepherd, 2005; Rauch et al., 2009). The empirical data on the influence of informal human capital,

on the other hand, is considerably less conclusive (Cowling, 2006). This is most likely owing to the prior literature's use of fragmented measurements of informal human capital. For example, while there is no evidence linking success to the age of the founder, other studies have discovered a link between experience and small business performance (Honig, 1998; Westhead et al., 2005; Zarutskie, 2010). As a result, a larger number of team members may suggest that the firm has more project founder experience, which may benefit business success in the future.

#### 3.1.2.4 Social Connection of Team Member

The function of social capital in team member financing is essential because network links between team members and potential investors impact the selection of projects to fund, overcoming information asymmetries (Shane & Cable, 2002). Recent research has found a favourable link between proponents' social capital and project outcomes in reward and donation-based Crowdfunding platforms. Using a sample of reward-based projects posted on Kickstarter, (Mollick, 2014) showed that the amount of a founder's social network connections is positively related to the capital raised from a project. Colombo, Cumming, & Vismara (2016) discovered, using the same platform, that the founder's social capital plays a critical role in attracting investors in the early days of a campaign, which, in turn, affects the success of the offer. The significance of social capital in donation-based Crowdfunding has also been shown (Ordanini, Miceli, Pizzetti, et al., 2011). According to a Nesta poll performed in 2014, two-thirds of UK project founders deemed their current social network ties to be crucial for the success of their campaigns (Baeck et al., 2014). In many cases, ties between investors and project founders predate crowdfunding efforts. The majority of supporters donate money to somebody they know at least by reputation, with only 28% supporting someone they don't know directly or through social media (Baeck et al., 2014). As a result, team members' social capital is likely to play an important role in garnering early contributions in EBC campaigns (Vismara, 2016). A proponent's campaign with a bigger number of social network connections is predicted to have a higher probability of success due to the increased possibility of direct bids from people with whom he or she is linked. Additionally, as Colombo et al. (2016) point out, social ties assist to circulate information and build word-of-



mouth familiarity with initiatives (Arndt, 1967). When project proponents publish proposals on EBC sites, they frequently link their social media identities to the platform accounts. Potential investors may therefore connect directly to team members through LinkedIn, Twitter, and Facebook, allowing them to seek additional information about projects before investing. To some extent, social networks can aid in the reduction of information asymmetry.

#### 3.1.2.5 Hypothesis

The previous sections have demonstrated the importance of signals sent by team member to small investors for the success of the Crowdfunding campaign (Ahlers et al., 2015; Bapna, 2019; Bernstein et al., 2017; Courtney et al., 2017). Crowdfunding investors can easily infer that a Crowdfunding project with more team members has a higher probability of larger company size and more talented employees who may have relative business education or fundraising experience that can contribute to the Crowdfunding project, and thus a higher number of team member associated human capital signals to a higher start-up quality (Cumming et al., 2012). Furthermore, an additional signal for investors of the number of staff and board members might indicate either profitability (the company's revenues can pay workers) or a desire of funders to invest personal funds (i.e., paying staff out of one's own pocket), which is an expensive indication (Cumming et al., 2012). The latter is more likely for a Crowdfunding company before it obtains initial investment. A larger number of team members, on the other hand, indicates a greater motivation for employees from diverse backgrounds to fight for the firm's future. Furthermore, these team members may have been given other choices and so incur opportunity costs (Cumming et al., 2012). As a result, team members must devote their time, resources, and future opportunities to the projects. Based on this, it is suggested that the number of team members in projects on Crowdfunding campaigns might be an important consideration for Crowdfunding investors.

The above arguments lead to hypothesis:

H2. The number of team members is positively correlated to the amount of funds that are obtained from EBC campaign.

### 3.1.3 Social Media of Projects In Crowdfunding Campaign

#### 3.1.3.1 The Role of Social Media In Small Businesses

Social media platforms may be utilised as a marketing tool by businesses of all sizes and sorts (Hassan et al., 2015). Social media allows businesses to interact with customers at the right moment, immediately, and at a lower cost and efficiency than other traditional communication channels. This permits social media to be owned and controlled not just by huge corporations, but also by small and medium-sized businesses (Kaplan & Haenlein, 2010b). Furthermore, social media sites like Facebook and Twitter allow consumers to follow their favourite businesses and comment on or ask questions about relevant items or services. Businesses may use social media sites to monitor what is being said about their brands and connect directly with customers (Reyneke et al., 2011). Consumers may aid businesses in generating new business and promoting or assisting any brand by tweeting, blogging, reviewing, following, and so on. Consumers who are loyal to a certain brand also contribute to internet marketing via a digital word-of-mouth marketing approach, which is critical for smaller companies. Relationships with customers allow small companies to use social media as a tool in their advertising strategies (Reyneke et al., 2011). However, many small companies are still attempting to successfully reach potential customers (Trends, 2011), and many are still ignorant of the benefits of social media marketing. According to SMB Group (2012) research, one in every five small companies does not have a social media strategy. It is critical to have a suitable plan in place to ensure the success of using social media for business or marketing objectives (Group, 2012; Hassan et al., 2015). As a result, while using social media, small companies must have a solid plan and strategy.

Management structure and centralisation are likely to differ amongst small Crowdfunding projects. Typically, the organisational setting is characterised in terms of descriptive characteristics such as company size or stage, centralisation or

formalisation, communication procedures (with clients or staff), and management structure (Tornatzky et al., 1990). While organisational size is an essential organisational element for technology adoption in general (Tornatzky et al., 1990), it is especially crucial for social media adoption (Bonsón & Flores, 2011). Likewise, management structure and centralisation are likely to differ between small Crowdfunding projects. Therefore, the number of social media may be settled differently associated with firm's stage or size. Schaupp & Bélanger (2014) focus on customer communication procedures, especially on consumer demands for the business to provide social media, which is referred to as customer pressure. In terms of social media, Askool & Nakata (2011) contend that it is simpler for management to make a choice if someone they know has or is obtaining it. As a result, if consumers have enough clout to demand that a small business use social media, it is more probable that the small business will use social media tools more frequently. For small businesses, they are still in the early stage of development and need to attract new customers. Thus, for small businesses in crowdfunding, social media also can play a such role to convey and introduce their Crowdfunding campaign.

#### 3.1.3.2 Impact of Social Media on Small Businesses

These small company owners recognise the importance of the internet and social media in, for example, forming intangible relationships with consumers and establishing a market presence in order to stay competitive (Jones et al., 2015). Consumers are increasingly and actively using internet technology, which provides chances for companies to contact and communicate with more people through websites and social media sites (Hagel & Armstrong, 1996; Jung et al., 2013). Consumers generally utilise these tools for networking, relationship building, and relationship deepening (Chung & Buhalis, 2008). Website services and social media are examples of interactive media (Sahay et al., 1998), because they enable businesses to move beyond merely delivering one-sided information to allowing customers to participate and interact with the product (Jones et al., 2015). Websites are among the most commonly utilised tools by companies (Jones et al., 2015). A website provides a one-to-many relationship between an organisation and the message recipients (site visitors), allowing both to communicate in real time (Sen et

al., 1998). Despite the fact that other tools, such as social networking sites, are becoming more important and popular, internet marketing professionals advise that a company's website should be the ultimate destination (Jones et al., 2015).

According to (Pick, 2013), 93 percent of marketers utilise social media for business, and 75 percent of marketers plan to increase their use as social media continues to grow. Social media are generally characterised as internet-based apps that carry user-generated content, which consists of media impressions made by users, typically influenced by relevant experience, and preserved or shared online for easy access by other impressionable users (Jones et al., 2015). Simply stated, these are websites that rely on user contributions (Agichtein et al., 2008). There are three types of social media sites: social networking sites (such as Facebook and LinkedIn), media-sharing sites (such as YouTube and Flickr), and thought-sharing sites (such as Blogs) (Jones et al., 2015).

Businesses make significant use of websites and social media. Around 73 percentage of small companies were reported to be utilising social media in 2012 (Bennett, 2012). 81 percent of these small companies said they expected to increase their use of social media, while 62 percent of those who had not previously used it said they planned to do so (Jones et al., 2015). Moreover, customers are more likely to believe other users than commercial advertising marketing communications (Jones et al., 2015). The most popular social media platform was Facebook (82 percentage), followed by YouTube, Twitter, and LinkedIn. In terms of value, however, Maltby & Ovide (2013) discovered that small companies prefer LinkedIn to Facebook for offering the most value. Twitter and Pinterest were deemed ineffective in driving traffic to their respective websites. However, according to a research conducted by Northwestern University, Facebook and Twitter account for more than half of all visits to small company websites (Jones et al., 2015). In terms of other marketing methods, Maltby & Ovide (2013) discovered that 91 percent of small firms use e-mail marketing and 95 percent have a website. Overall, 77 percent of small firms said they still use print advertising, while 69 percent said they use web advertising.

One of the most important reasons for having a website and a social media presence is that these tools have a direct influence on customer perceptions and decision-making process. Social media, which has grown dramatically in recent years, is especially essential for small businesses because it can be used to cut through the clutter and communicate with customers (Jones et al., 2015). Social media has a significant impact on consumer purchase decisions.

In the context of Gift shopping, 88 percent of customer said they use social media to connect with firms, with 67 percent of customer saying they did so occasionally and 21 percent of customer saying they did it often (Jones et al., 2015). When asked to rank the sources customers consult before making holiday purchasing decisions, editorial material and word of mouth tied for first place, with editorial content receiving 28 percent of the votes and word of mouth obtaining 26 percent (Jones et al., 2015). Social media comes in second with 21 percent, followed by television advertisements with 12 percent, newspaper ads with 9 percent, and internet ads with 4 percent (Jones et al., 2015). Businesses might benefit indirectly from having a social media presence. In other words, it is utilised as a tool to establish connections with clients over time, rather than immediately leading to rapid decision-making or purchase behaviour (Jones et al., 2015). The goal is to ultimately draw clients to the company's web page, which is fully under its control. The presence of social media has also been found to boost brand recognition and, as a result, search ranking on search engines like Google (Wood, 2009). Consumers' information satisfaction on social networking sites influences their behavioural intentions, therefore it's important for businesses to give the finest information possible to attract customers (Jeong et al., 2003). This reveals that social media has a significant and rising impact on consumer sentiments. It also emphasises the necessity of offering engaging material to the right audience. Previous research has demonstrated that peer communication via social media may have a significant impact on attitudes and purchase behaviour (X. Wang et al., 2012). According to the findings of the studies, social media is a very successful medium for organisations to actively involve and engage target market customers, as well as impact customer behaviour. The capacity of social media to generate interactivity and discussion offers a strong approach to

engage customers and build long-term ties with the company and brand (Van Noort et al., 2012).

### 3.1.3.3 The Benefits of Social Media for Crowdfunding

Social media technologies offer the benefit of fast results and accessibility to both customers and businesses, giving social media an advantage over traditional marketing approaches. Because of the high degree of consumer involvement connected with different types of web-based media, social networking sites such as Facebook, Twitter, LinkedIn, and others enable viral marketing and word-of-mouth promotion to be more effective than traditional media sources. Opinion leaders have the potential to significantly impact customers' beliefs, actions, and values, and they can successfully reach large numbers of people through blogs and social networks (Acar & Polonsky, 2007). Social media has offered marketers with new and effective means of not only contacting their particular target audiences, but also encouraging word-of-mouth communication and support among online communities by raising consumers' interest in the brand (Castronovo & Huang, 2012). This leads to the synergistic integration of social media as an essential instrument for developing an integrated marketing communication from the perspective of small companies in terms of how they predict their firms' future in their marketing strategy.

Stelzner (2012) performed a study of 3,800 small and medium-sized businesses to determine why these businesses use social media marketing. Small companies indicated that social media helps them expand and promote their company, particularly in terms of generating greater awareness in terms of business exposure (85 percent of marketers), increasing traffic (69 percent), and providing organisational insight (65 percent). In terms of networking, connections, and online branding potential, social media may benefit small businesses (Bulearca & Bulearca, 2010). The internet has improved the capacity of firms and probable future consumers to communicate interpersonally, resulting in a strong method for product information to be swiftly distributed, resulting in increased visibility, viability, and sustainability for the small company.

#### 3.1.3.4 Hypothesis

The author argues that the additional channels in online and social media in EBC offer a possible vehicle to help projects in Crowdfunding build greater project awareness, improve interactions with consumers, and increase money through these methods. Crowdfunding platforms may be used to display various aspects of projects, whilst project social media can be used to disseminate project ideas. The network in social media is a significant component in Crowdfunding campaigns, as it may serve as a means of conveying campaign information (Thies et al., 2019). The more social mediums there are, the more followers there will be, which may be an indicator for the project's social network. And social media followers may help create support, distribute project information, draw the attention of other possible investors, and develop project confidence (Thies et al., 2019). The team member may regularly update information relevant to Crowdfunding, such as key information for investors, problems during or after Crowdfunding, and explanations following substantial ambiguity, indicating that the team member is familiar with company operation. Furthermore, team members that participate in other Crowdfunding campaigns can demonstrate their competence and influence investor behaviour. A project founder can identify which elements may impact the success of a Crowdfunding campaign by gathering experience from previous campaigns. Supporting other Crowdfunding campaigns can also assist to recruit other team members and their followers as investors. As a result, the more social the medium, the greater the exposure of team members' activities for Crowdfunding and the greater the probability of bridging a relationship with various investors.

Aside from team members giving information on the Crowdfunding site, social media may be used to distribute the description, video, and any updates. Potential investors evaluate the credibility of any biased information they come across on social media. When evaluating projects, various sources become increasingly important to potential investors (Thies et al., 2016). Investors, in particular, can use word-of-mouth, such as good comments, on any of these social media platforms to evaluate Crowdfunding initiatives (Vismara, 2016). Former, future, and present consumers can consolidate their feedback on the firm through various methods (Datta et al., 2019). The product's and company's dependability and trustworthiness may be

represented in both good and negative remarks, and can serve as a reference for investors' investment decisions (Datta et al., 2019). Spreading the word on social media boosts exposure for the relevant Crowdfunding campaign without needing any financial inputs and can be crucial in convincing prospective backers to contribute (Thies et al., 2016). As a consequence, recommendations and comments from their network have a beneficial impact on customers. The greater the number of social networking sites, the greater the exposure of the project in Crowdfunding to possible investors, the greater the awareness of a campaign, and the greater the dependability and trustworthiness from a larger number of social media networks. Thus, the above arguments lead to hypothesis:

H3. The number of social media posts that a firm has posted is positively related to the amount of equity-based crowdfunding that is obtained.

## 3.2 Fund Raising Structure Factors of Crowdfunding Campaign

### 3.2.1 Target Amount in Crowdfunding Campaign

Examination of one of the specific factors in this section is the relative funding target within the specialism of the project founder or the amount of funds a project declares it must raise by the end of their campaign on crowdfunding platforms.

#### 3.2.1.1 Target Amount and Expectation in Crowdfunding Campaign

From an operational point of view, a logarithmic transformation of the funding targets values was introduced to assist comparison across projects and reduce the effect of outliers. The funding target is considered as a proxy of the expectation of the project founder. The author suggests that project founders with more expectation in projects would require higher amounts of funds raising than projects with less expectation, because funds raising regulation of Crowdcube is organised as an all-or nothing platform. According to crowdfunding platforms, for example, Crowdcube's statement on their website: There is initial investment target before project campaign going to public for at least 30 days in Crowdcube.



Crowdcube's statement is as follows:

"Your pitch will remain private on Crowdcube until you reach a certain investment milestone; this amount will be agreed between yourself and your Campaign Manager. This is to provide you with sufficient time to secure your lead investment and to give your own network of customers, family, friends and business contacts exclusive access to your pitch. Once you have raised this initial investment target, your pitch will be made public for 30 days, giving Crowdcube's investor community and your wider network the opportunity to invest. In order to maximise the success of your crowdfunding raise, you should, of course, continue to promote your pitch to your own network throughout the duration of your time on Crowdcube."

Moreover, if the campaign is failed, the funding raised will be cancelled and returned to investors. Crowdcube's statement is as follows:

"If a pitch fails to reach its funding target within the time allowed it will either receive an extension, this decision is made at Crowdcube's discretion, or it will be cancelled. In the event an equity pitch is cancelled, no payments will be taken from investors, nor will any fees be charged to the business."

Thus, projects must raise their funding target to receive any funding and thus if not reach the target, project founders do not receive any funds below their expectation level.

The influence of expectation within entrepreneurship was originally examined in order to evaluate whether signalling a greater degree of expectation would have a good or negative effect on the project's success. Higher levels of entrepreneurial expectation are regarded as a positive factor in the entrepreneurship literature, increasing start-ups' capacity to develop and expand (Bosma & Schutjens, 2009; Davidsson, 2003). Excessive entrepreneurial expectations, on the other hand, have been seen to have a detrimental impact on the overall macroeconomic level of the economy, leading to economic inefficiencies (Cieřlik et al., 2018). Furthermore, expectation has been found as having a detrimental influence in the crowdfunding

literature. According to Wells (2013), the success of a crowdfunding project might be impeded since it allows unscrupulous actors to steal trademarks and patents. However, the author disagrees with this reasoning since it implies that the firm is unable to register patents or copyrights before launching the crowdfunding campaign. Mollick (2018), on the other hand, proposes a simpler explanation why overly anticipated projects are more likely to obtain less support: they are more difficult in general, making them more likely to fail in development and hence less likely to acquire financing. The all-or-nothing policy, which requires all projects to meet their financing target in order to receive funding, would amplify this impact.

Furthermore, because the nature of increased expectations in projects necessitates higher targets, their chance of success may be reduced. It is necessary to evaluate whether the financing target is manipulable, visible, and more expensive for low-quality initiatives. As any fundraising target may be stated for a project, and investors are free to observe the funding target, the funding target can be manipulable and visible. This signal might also be regarded more expensive for low-quality projects, as more investors are typically required to back a project with a larger financing target. As a consequence of the increasing number of investors, the project will be subjected to more examination or due diligence, not only as a result of each investor's direct understanding, but also as a result of the investors' collective understanding (Surowiecki, 2005). Low-quality projects are less likely to endure the extra scrutiny and due diligence, thus resulting in a higher cost for setting a higher fundraising goal. As a result, the larger financing target may have a detrimental influence on performance while also serving as a strong signal.

### 3.2.1.2 Target amount and Confidence in crowdfunding campaign

The project founder can set the fundraising target, and therefore the funding target, at any level, and this amount of money can also be exceeded. The proportional financing objective might be seen as an indication of the confidence of project founders in the crowdfunding project. The logic for this is because the more the project founder's confidence in the project, the more likely they would believe their project to achieve outperformance within the same year, allowing them to set a

greater fundraising target. If the project founders lack this confidence, they are more likely to view their products or services as underperformance on the platform, thus resulting in a lower relative financing target. The success of a crowdfunding campaign depends on whether the degree of confidence was realistic or whether it was likely to be exaggerated by the crowdfunding project's project founders. Traditional project founders are overconfident, according to research on the performance of new ventures (Astebro et al., 2014). Thus, it could be argued that project founders in crowdfunding which includes project founders (Bruton et al., 2015) could also be viewed as overconfident. As a result, it might be claimed that project founders in crowdfunding, including project founders (Bruton et al., 2015), can be considered as overconfident.

This viewpoint is backed by research on reward-based crowdfunding, which shows that project founders are overconfident (Miglo, 2020). As a result, the author suggests that EBC project founders, on average, may be overconfident in their campaign. Moore & Healy (2008) examined the influence of overconfidence by dividing it into three separate concepts: overestimation, over placement, and over precision. Overestimation occurs when people place their own ability or performance above that of others. Over placement occurs when people place their own abilities above that of others. Finally, over precision occurs when people feel they are more correct in their ability forecasts than they actually are. Project founders that set a larger financial target in their crowdfunding campaigns can exhibit all three of these characteristics of overconfidence. Malmendier & Tate (2005) stated that over placement and overestimation can be both related to the idea that people overestimate their competence when they compared their competence to others, which is an important topic in the social psychology literature (Camerer & Lovallo, 1999; Larwood & Whittaker, 1977). Kruger & Dunning (1999) further argue that individuals with the lowest degree of competence were the ones who were more prone to exaggerate their relative skills. Individuals who scored the lowest on humour, language, and logic were the most prone to exaggerate their results, according to the tests. For example, individuals who did the worst on the test, scoring in the bottom 12 percentage of all participants, judged themselves to be above

average, anticipating that they would score in the top 38 percentage of the test. When these studies are applied to crowdfunding, it suggests that the lowest-quality projects may substantially overestimate their capabilities by comparing themselves to previous high-quality projects and assuming they can obtain the same level of success. As a result, project founders overestimate the capacity of their ideas to acquire financing, causing them to set an unrealistically high relative fundraising target.

Overpredicting may also be linked to crowdfunding, since the high fundraising target can be regarded as a direct result of estimating how much money the campaign would receive. By discovering significant amounts of variation in stock trading, Malmendier & Tate (2005) revealed that CEOs overpredicted results. They used the calibration literature to explain how people tend to overestimate the accuracy of their information (Einhorn & Hogarth, 1978; Koriat, Lichtenstein, & Fischhoff, 1980). Furthermore, this research demonstrates that prior experience is ineffective in preventing incorrect forecasting. There are three plausible reasons for this, according to Einhorn & Hogarth (1978): a lack of evidence against their original viewpoint, an individual's inability to identify environmental effects that influence the outcome of an event, and finally, outcomes were not accurately recorded or coded so that outcomes could not be referred to when assessing future events. When these concepts are applied to crowdfunding, it appears that project founders are unlikely to be able to accurately assess the viability of their project, even if they have prior experience with the platform, which might result in an unattainable fundraising target being established.

### 3.2.1.3 Hypothesis

As previously stated, it is important to examine if the higher fundraising target, which is meant as a signal, satisfies the three crucial requirements of being manipulable, more expensive for low-quality projects, and visible. The greater fundraising target is clearly manipulable and visible, as any fundraising target for a project may be specified, and investors can examine the funding target. This signal might also be regarded as more expensive for low-quality projects, as a business with a higher

fundraising target would often require more investors. As a consequence of the increasing number of investors, the project will be subjected to more examination or due diligence, not only as a result of each investor's direct understanding, but also as a result of the investors' collective understanding (Surowiecki, 2005). Low-quality projects are less likely to endure the extra scrutiny and due diligence, thus resulting in a higher cost for setting a higher fundraising goal. Moreover, according to the theory of goal setting, difficult targets have a negative attitude if backers believe they are growing more difficult to achieve (Locke & Latham, 2002). Finally, achieving the objective can lead to fulfilment and increased motivation, while failure to achieve the goal can lead to dissatisfaction and decreased drive. Thus, goals can be difficult but attainable. Hence, the funding target can be seen as an effective signal of the project founders. The author proposes that, in general, project founders signalling through their high funding targets, might unintentionally have a negative impact on the success of the crowdfunding project.

The above arguments lead to hypothesis:

H4: The target amount is negatively correlated to the success of the equity-based crowdfunding projects

### 3.2.2 Equity Offered in Crowdfunding Campaign

Examination of one of the specific factors in this section is the equity offered by the project founder or the amount of equity a project declares it will sell to investors at the end of their campaign on Crowdcube. The amount of equity offered can be considered as a signal for the quality of the entrepreneurial firm of the crowdfunding project. The author argues that the greater the quality of project has in the crowdfunding, the more likely that the project founder will consider their project to be successful in the future and thus they are able to offer a lower equity in the EBC. If the project founders lack confidence, then they would be more likely to consider their project to be riskier or to fail in the future, thus offering a higher equity.

According to the resource-based theory, Barney (1991) argues that a resource is an essential element affecting corporate behaviour and that a company is a system

made up of many resources. Corporate behaviour is also influenced by resources (Brlečić Valčić & Bagarić, 2017). Grant (1991) argues that a firm's resources and capabilities are crucial to its profitability. In order to generate revenue, businesses require not only an abundance of resources, but also the capacity to make the best use of them. Penrose (1959) shows that the key drivers of an organization's growth plan are slack resources. Because of this, resource-rich companies may utilise their resources to run their project founder subsidiaries successfully and assist them achieve higher performance. The author can expand to crowdfunding for small businesses as a result of this. To attract investors, low-quality projects may need to give greater equity. There is also a significant body of research on corporate finance that examines whether and how ownership structure influences company performance. On the one hand, when a firm's ownership is dispersed, shareholders are really not motivated to closely monitor management decisions since the resulting gain is insufficient to offset the monitoring expenses. Shleifer & Vishny (1986) stated that some level of ownership concentration improves firm performance because large block shareholders, who stand to gain a massive portion of the gains from improved firm performance or a takeover, have incentives and resources to monitor management decisions.

Studies based on data from developed economies have been used in empirical study in this field. Holderness & Sheehan (1988) discovered that in a sample of 114 NYSE and American stock exchange companies controlled by a majority shareholder holding more than 50 percent of the common stock, accounting profits are much lower for individual majority owners than for corporate majority owners. Boardman & Vining (1989) analyse the performance of mixed companies and private companies among the 500 largest non-US industrial firms and conclude that mixed companies outperform equivalent private organisations significantly. Ownership structure is also adversely associated to external equity and favourably related to internal equity, supporting the well-documented desire of closely owned companies for independence and control (Watson & Wilson, 2002). Moreover, in SMEs, Leland & Pyle (1977) stated that project founders' desire to invest in their own projects indicates project excellence. Investors can look at owners' financial commitments to

get information about unknown business value because they know more about their projects than external investors.

Project founders that are confident in a venture's future keep as much equity as possible. Those who have less confidence in the firm's ability to create positive cash flows in the future are more likely to raise funds by selling greater percentages of equity to investors. In the IPO and venture capital fundraising environments, the amount of stock held by a company's founders is typically regarded as a favourable indication to external investors (Busenitz et al., 2005). In the majority of "bad" projects, there is a significant level of information asymmetry (high level of uncertainty) between project founders and investors. As a result, increasing degrees of information asymmetry puts investors in a position where they must rely on more ambiguous information to make investment decisions. High degrees of information asymmetry decrease the chances of investing, and in the end, no investments are made. As a result, in order to secure investment, project founders must successfully convey the "good" quality of their products or services to investors to reduce the level of uncertainty. Investing indirectly in one's own enterprise and maintaining equity is one method to signal quality. This might show that the venture's worth is proportional to the amount of equity held by the founders, lowering the level of uncertainty (Vismara, 2016).

The author expands on this study by claiming that this signal is also important in the context of EBC. For crowdfunding projects, the potential rewards for successful business plans are very high, and project founders who are confident about their company's future prospects attempt to retain substantial quantities of stock shares in order to benefit from future gain (Vismara, 2016). Due to penalty costs, this process produces a separating equilibrium. Although signal costs are the same for high and low-quality companies, owners of low-quality firms that retain large amounts of equity face penalty costs due to future wealth loss (Vismara, 2016). As a result, the article suggests that high ownership retention might reflect a founder's dedication. This conduct will be interpreted as a quality indicator by potential investors, increasing their desire to subscribe to the offer. Aside from the information

asymmetry, equity financing is more expensive for small companies than other types of financing. Venture capitalists, for example, generally spend significant sums of money and so finance larger ventures rather than smaller ones (Kumar & Rao, 2015). This is due to the restricted availability of venture capitalists and the capacity of small businesses to approach them, particularly in developing nations. As a result, the official lending infrastructure is underdeveloped, and small businesses must rely on less formal means to meet their financial needs (Kumar & Rao, 2015). This argument supports the life cycle theory of a business that Penrose (1959) presented. This theory incorporates all components of capital structure theories, including trade-off theory (Kraus & Litzenberger, 1973), agency cost theory (Jensen & Meckling, 1976) and pecking order theory (Myers & Majluf, 1984). According to this idea, companies in their early and start-up stages have difficulties obtaining finance from official sources, therefore they get cash through informal sources (Mac an Bhaird & Lucey, 2011). As a result, I argue that founders are adopting more expensive forms of funding by providing more ownership, which implies that the idea may be of inferior quality.

#### 3.2.2.1 Hypothesis

As previously mentioned, it is important to examine if the amount of equity given as a signal satisfies the critical requirements of being costly, having less resources for low-quality projects. The quantity of equity given is observable, as any financial target for a project may be specified. When compared to comparable projects that provide more equity, this signal might be deemed costly and convey a signal to investors that the project founder trades more expensive equity for a lower future return. It might indicate that the project is of inferior quality. As a result, the equity given may be viewed as an effective signal and utilised to evaluate the quality of the projects. Thus, the author suggests that in general, project founders signalling by their increased ownership provided may be in the low-quality of their ideas, causing this signal to have a detrimental influence on the crowdfunding project's performance.



Following the offering, there may be agency issues between majority and minority shareholders. Indeed, the majority of the firm's shares are likely to be owned by the project founders, with each crowdfunding investor owning a small portion. The average stock percentage provided to crowdfunding investors is about 13% (Vismara, 2016). Because the project founders are majority shareholders, they maintain control of their firm even after the offering is completed. The interests of majority owners may differ from those of minority shareholders. When majority owners use their voting power to make choices that do not benefit minority shareholders equally, principal-principal disputes develop. For example, a majority shareholder may utilise their voting power to benefit themselves at the detriment of other shareholders (Hart, 1995). Furthermore, agency problems of this sort may include failing to promote techniques that are beneficial to organisational performance (Young et al., 2008).

The above arguments lead to hypothesis:

H5: The amount of equity offered in the projects is negative correlated to the success rate of equity-based crowdfunding campaign

### 3.2.3 Dual Class Structure in Crowdfunding Campaign

Examination of one of the specific factors in this section is the Dual class structure set up by the project founder or the threshold value of a project declares it will offer voting rights to investors when one's investment is over the threshold value in their campaign on Crowdcube.

The direct and nominee shareholder structures are the two most common types of shareholder structures in EBC. In a direct shareholder structure, firms assign individual voting rights to each investor based on the amount of funding invested, whereas in a nominee structure, the crowd is represented by one legal shareholder (the nominee), who consents to major decisions on behalf of all individual shareholders (Walthoff-Borm, Vanacker, et al., 2018). As a result, the investor will not be able to vote in the nominee structure. Platforms that operate on a direct shareholder basis do not act as a middleman between project founders and crowd

investors (Walthoff-Borm, Vanacker, et al., 2018). This might be inconvenient for project founders that need to communicate with them directly. A crowdfunding campaign has an average of 333 crowd investors, of whom 205 are eligible to vote, or 75 percent of the total crowd base (Signori & Vismara, 2018). Thus, key business activities that require shareholder approval, such as follow-on rounds of financing, director election, recapitalisation, sale of significant assets, or managerial compensation increases, are more difficult to accomplish under the direct shareholder structure. Some shareholders may be passive (i.e., they are not interested in attending company events) and may need to be approached several times to obtain their consent. In addition to increasing coordination issues, it is more difficult for project founders to achieve an agreement with a large number of shareholders – who may have divergent objectives – and conclude a funding arrangement. The nominee shareholder structure, on the other hand, overcomes the disadvantages of decentralised ownership. First, the nominee shareholder structure reduces coordination costs: instead of dealing with their whole investor base, project founders just have to deal with the platform (Cumming et al., 2019; Walthoff-Borm, Vanacker, et al., 2018). Because the platform manages the procedure directly using purpose-built software that centralises the investors' polling process for all crowdfunded businesses, obtaining shareholder approval becomes faster and cheaper for companies.

Furthermore, the form of dual-class shares has been frequently used in corporate governance. It can distinguish between a company's ownership and control. Pyramid strategies, numerous control chains, and crossholding are common in European and Asian businesses. It also appears to be increasing the number of dual-class equity IPOs in the United States. It has increased from 7% of total in the latter decade of the 1990s to over 20% in the previous four years (Gompers, Ishii, et al., 2010). In recent years, dual-class IPOs have been utilised by IPO in companies such as Alibaba, Snap, and Dropbox. In Europe and Canada, almost one-fifth of the firms with dual-class arrangements were listed. For the largest owners, a dual class share structure can help to centralise power by isolating cash flow from voting rights. However, it has the potential to exacerbate the ownership-control issue. The value of a firm can grow in

terms of controlling shareholder with cash-flow rights, but it can decline when voting rights are over cash-flow rights in particular, according to corporate governance studies (Gompers, Ishii, et al., 2010). In reality, a dual-class structure can be implemented just during the initial public offering (IPO). Existing listed companies with a single-class structure will find it difficult to recapitalise with a dual-class structure due to listing requirements.

Existing shareholders may be required to pay a greater price for the dual-class structure's benefits. They keep the retaining shares with stronger voting rights in particular to sustain control benefits. Investors may be hesitant to invest in shares that have lower voting rights as compared to those with higher voting rights. Dual-class structure may ensure control for the management of the dual-class structure's firm. Moreover, Bebchuk and Zingales (2000) describe that using dual class share arrangements exclusively might skew a company's controlling shareholder structure. Additionally, empirical evidence supports a variety of viewpoints. Dual-class IPO-firms have lower trading prices than single-class IPO-firms (Smart et al., 2008), whether at the IPO or for at least the next 5 years, whereas Bohmer, Sanger, & Varshney (1996) show that dual-class IPO-firms can outperform single-class IPO-firms in both stock price and operating performance. In dual-class companies, Cox and Roden (2002) find that larger dividend payments for low-vote owners can minimise the gap between high-vote and low-vote shares. Chemmanur and Jiao (2012) state that a dual-class structure can help skilled leaders focus on maximising the value of a firm by preventing outsiders from diverting their attention. Information asymmetries are a major risk for investors in EBC, as they are in every entrepreneurial finance market, leading to adverse selection difficulties. With less information than project founders, potential investors determine whether or not to invest in securities (Bebchuk & Zingales, 2000).

### 3.2.3.1 Hypothesis

As previously mentioned, it is important to examine if share with voting right can be a signal for projects in EBC. The author argues that EBC projects that provide shares with voting rights are a viable avenue for assisting the success of a Crowdfunding

campaign and whether setting higher investment threshold to obtain voting right can also be a viable avenue for assisting the success of a Crowdfunding campaign. Many publicly listed businesses have been studied the connection between security ownership and vote power. Management teams at these companies can enhance their voting power without increasing their ownership of shares, allowing them more influence over the outcome of corporate elections without having to suffer the financial repercussions of their actions (Mikkelson & Partch, 1994). K. Li, Ortiz-Molina, & Zhao (2008) investigate institutional investor choices for the equity of companies with an extreme type of governance, dual-class equity, which have separate voting rights for various share classes. Executives in dual-class companies own the majority of the shares with superior voting power, allowing them to manage the company without having substantial equity interests and being relatively immune to external control challenges such as takeover concerns. Indeed, as a result of differentiated voting power, shareholders who do not have a comparable economic stake in a corporation are more likely to “tunnel” away a disproportionate portion of firm value. Crowdfunding investors, like stock exchange investors, may be hesitant to invest in inferior voting shares due to the danger of expropriation. Moreover, Cross-country studies (Dyck & Zingales, 2004), found that control has a significant value, perhaps as much as 50% of the company's value. The average value of control in the United States is 2–4 percent of firm value (Nenova, 2003), although it may be substantially greater in specific control conflicts (DeAngelo & DeAngelo, 1985; Zingales, 1994). High-vote shares generally traded at a 5–10% premium over low-vote shares in US companies with dual-class structures (Lease et al., 1983; Zingales, 1994). Outside of the United States, the price gap between high- and low-vote stocks can be substantially greater (Levy, 1983; Zingales, 1994). However, the price premium connected to high-vote shares understates the value of control since controlling shares rarely trade. Thus, because voting rights are associated with value, shares with voting rights are valued greater than shares without voting rights.

Based on the above arguments lead to hypothesis:

H6A: Firms offering shares with voting rights are positively correlated to the success rate of equity-based crowdfunding campaign

H6B: The firm's campaign with lower threshold value of shares with voting rights are more likely to succeed in crowdfunding than those with high threshold value of voting right.

### 3.3 Summary

In this chapter the key factors contributing to the success of EBC are critical discussion. A conceptual framework is developed, this is then followed by corresponding hypothesis. In the following chapters, research philosophy and research methods to test hypothesis will be covered.

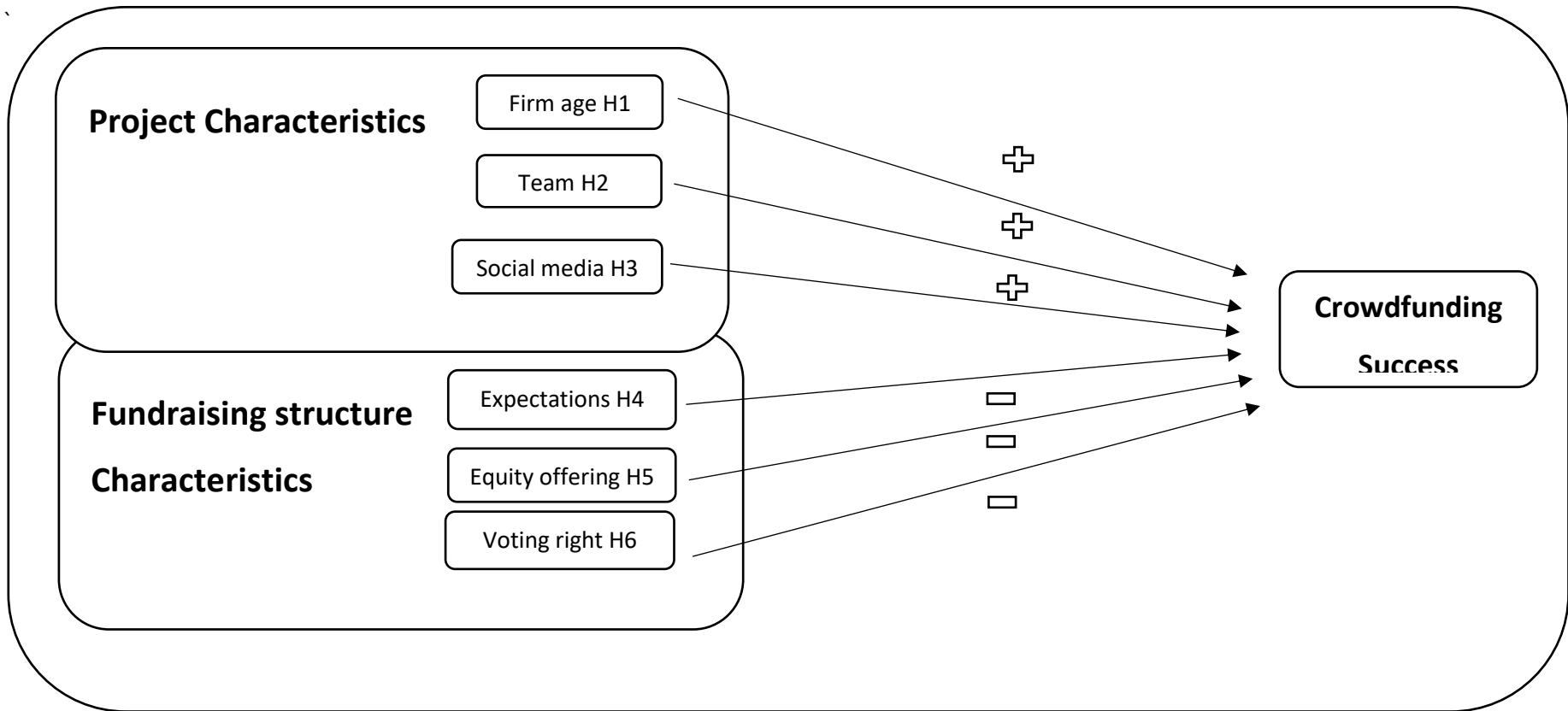


Figure 12 Conceptual framework diagram

## 4 METHODOLOGY

In the previous chapter, a conceptual framework of EBC success has been developed. This is followed by a hypothesis that can help to address the aims and objectives of this thesis. In this chapter, the research philosophy and research framework will be covered.

### 4.1 Research Philosophy

The positivist paradigm is defined by Tashakkori, Teddlie, & Teddlie (1998) and Creswell & Creswell (2017) as an intuitive approach to investigate topics of interest, the adoption of suitable techniques, and the positive application of results in accordance with the researcher's world view. For these reasons, it is possible to claim that the pragmatic positivist paradigm may be used in social and management research.

Pragmatism will be the research paradigm that will be used in this study. Pragmatism holds that the world is made up of various realities, some of which can be understood by objective reasoning and others only through subjective reasoning, and that there is no consistent, accurate method of interpreting the universe's epistemological design (Creswell & Clark, 2017; Dewey, 1958). An organising structure or framework utilised throughout the study to tie the design to a philosophical perspective, thereby impacting the design and contribution of the research directly. The selection of research paradigms is based on the goal of producing an useful output; in general, this is accomplished by ensuring that the study has some practical application that can be used in the actual world. (Creswell & Clark, 2017). The unique technique utilised in the study should be chosen depending on what is best suited for that specific research, whether it is quantitative, qualitative, or a blend of the two, according to pragmatism (Yvonne Feilzer, 2010).

As a result, defining the research design of every study begins with paradigm positioning. A paradigm describes the researcher's worldview and core set of ideas, offering guiding principles in terms of ethics, epistemology, ontology, and

methodology (Denzin & Lincoln, 2008). In the early-mid 1970s, Roy Bhaskar and Rom Harré published books criticising the positivistic view of science (Bhaskar, 2014). This sense of reality is linked to epistemological principles that see knowledge about the world as socially constructed, that is, as the subject of the observer's perspective. For several reasons, the author uses pragmatism as a research paradigm to investigate crowdfunding. To begin with, some aspects of reality must be personally interpreted by taking into account an individual's perspective (Jhangiani et al., 2014). Because an individual's perspective and reaction to an incident might be influenced by the individual's prior behaviours and beliefs, it is therefore clear that one cannot fully comprehend what another person has gone through (Albarracín & Wyer Jr, 2000).

Thus, even though the stimuli are the same, another individual will not have the same interpretation of the current experience since they have not shared the same prior experiences. Fundamentally, this means that components of the cosmos are subjective and can only be comprehended by those who can subjectively observe them. In contrast, the author believes that other parts of the world may be observed objectively outside of subjective experience. The scientific method is a good illustration of this, albeit the objective components are dependent on the scientific methodology used (Giorgi, 1997). An analogy of the universe's structure is suggested to better illustrate the author's essential underlying reasoning in settling on pragmatism. Consider the world as a forest, a metaphor initially proposed by Heraclitus (Kirk, 1954), who pondered how the universe was always adapting and evolving. The author extends on this comparison by examining the individual components of the EBC project. Consider how each project helps to transform a new method for entrepreneurial finance. Multiple groups of projects in different industries develop concurrently from the ground to form the EBC campaign. These groups may cross paths and become connected at times, but they are also fully self-contained at other times. These groups reflect the subjective perspective of reality, with each group representing how information may be distributed throughout the universe in ways that are not perceptible from the other groups' positions. Only people who are members of such organisations may perceive that version of reality.



Objectivity is seen as a factor that will impact all groups, no matter where they are in the forest. In this comparison, the fundamental objective principles that guide the universe might be regarded as the underlying rules that guide the forest. To modify these objective rules, the entire forest must be changed, outside of the original structure. As a result of this logic, the research tries to illustrate what is happening inside the world as exactly as possible, while admitting that the universe is both objective and subjective in character. Taking this forward, pragmatism is adopted as a research philosophy since it corresponds with acknowledging the universe's structure.

#### 4.2 The Reasoning Behind Using a Quantitative Approach

Using the positivist paradigm as a guide, a systematic approach was utilised to perform a literature review to construct the research objectives, develop conceptual framework and hypotheses (Creswell & Creswell, 2017; Tashakkori et al., 1998). A literature study in the field of entrepreneurship resulted in the creation of testable hypotheses as well as variable selection. The variables were chosen in order to be measurable and used as empirical indications. The findings will help to advance theory and gain a better grasp of the link between project founders and investors.

Moreover, the rationale for employing a quantitative data collection method is connected to the study's goals, which include the ability to assess performance throughout the whole crowdfunding platform. As mentioned in Chapter 1, the United Kingdom is the world's biggest market for EBC, and Crowdcube is the leading EBC platform. Thus, I select the platform Crowdcube to examine. During a pre-data collection examination of Crowdcube, it was discovered that there were on average over 70 projects per year, each of which was hosted on its own homepage within Crowdcube, where the project founder established the funding target and provided important background information about the project, and investors supported the project via the project page. To use qualitative approaches, the timeframe investigated would have to be drastically shortened, or simply a single Crowdcube category may be examined. Using a quantitative method, on the other hand, would obviate both of these constraints while maintaining the result's generalisability to

other types of crowdfunding sites. Platforms that use the same investor participation rights and project founder requirements are referred to as similar kinds of crowdfunding platforms.

Furthermore, the analysis of Crowdcube revealed that the crowdfunding platforms' systematic structure enabled vital information regarding campaigns to be regularly given. Within Crowdcube, for example, each project had to declare a fundraising objective, which could then be compared across all projects. Crowdcube had a set of variables that were consistently reported across all projects, allowing for the development of a set of independent variables that were consistent across all projects. The platform also offered consistent vital information that could be used to define the dependent variable by capturing success in the platforms. For example, in Crowdcube, the all-or-nothing condition allowed the dependent variable to be successfully reaching the funding target, allowing a consistent set of dependent and independent variables to be obtained across all projects on the crowdfunding platform, which could then be tested using quantitative analysis techniques, and encouraging the use of a quantitative approach.

A quantitative approach was used for these reasons. The parts that follow describe the quantitative method used to construct the models that will be tested for the thesis.

An outline of the quantitative process is shown below.

For each model, the following steps are used:

First, essential assumptions and a conceptual framework are developed using the theoretical framework presented in the literature review.

Second, data is obtained through crowdfunding platforms for both the dependent and explanatory variables.

Third, a data model is given for analysis based on the collected data and conceptual frameworks.

Fourth, the model is analysed using a quantitative method; the strategy chosen is based on the nature of the dependent variable and the dataset's underlying characteristics.

Fifth, the model's estimations are then used to test the hypotheses obtained from the study framework.

Sixth, based on the results and their impact within the framework and the available literature, findings, recommendations, and conclusions are generated and discussed.

### 4.3 Data Collection

The key data collecting, and management strategies utilised for both the Crowdcube datasets are discussed in this section. This section tries to show what approaches were utilised and why they were employed, rather than highlighting the precise collecting procedure used for the dataset.

Human comprehension and behaviour are founded on the context-dependent interpretation of data and experiences. Scientific research can give an accurate picture of the systems, processes, and structures that lie behind visible patterns, or what actually occurs. In order to construct the most accurate account of reality possible, researchers must employ a wide range of instruments and approaches. A quantitative study technique, linear regression, was used to gain a better understanding of the factors that influence the success of new EBC projects. Finally, quantitative approaches are employed, enhancing the study's depth (Tashakkori et al., 1998).

Moreover, a non-functionally specific hypothesis is generally the starting point for excellent social data analysis directed to theory development. To check the claim, an appropriate data collection is selected, and a statistically plausible statistical description of it is created. If the results support the initial hypothesis, the researcher engages in a game of becoming his or her own harshest critic by concocting convincing alternative explanations (Achen, 1982). Achen (1982) offer a guide on how to utilise regressions in social science. Because this thesis's chapter is concerned

with the ecology of connections and attempts to investigate a social phenomenon, a regression style analysis should be understood in the lack of statistical causality. As a result, the goal of the regression, as suggested by Achen, is not to show causality. According to his book on understanding regressions, several distinct sets were characterised in a variety of ways until every other plausible interpretation seemed improbable (Achen, 1982). The real functional form was never specified and it remained unknown and unwelcome (Achen, 1982). There was also no presumption that the regression coefficient being calculated represented actual effects that were constant throughout time and space. Instead, the goal was to create a statistical description that was true to the data set and to draw causal conclusions from the general pattern rather than specific coefficients (Achen, 1982).

In light of the arguments discussed in the previous section, the empirical setting of this thesis is the EBC market in the UK. The UK is the world leader in EBC regarding market development, regulatory environment, and market size. EBC is currently the second most active funding type for project founders in the UK after private equity and venture capital, and EBC platforms are the emerging way for individual investors to select projects. Besides, the United Kingdom has operated one of the largest EBC platforms, it also provides a way to obtain accounting data on small, privately held firms on the website of Companies House (Walthoff-Borm, Schvienbacher, et al., 2018). This data is important for my research because it allows me to track the performance of equity-biased crowdfunding firms and match their information.

The largest EBC platform in the United Kingdom is Crowdcube (Estrin et al., 2018). Each business plan of a project is under the scrutiny of platform before listing, whereas no ongoing reporting is required of the company. Like other EBC platforms, Crowdcube operates in the model of all-or-nothing and dual class shareholder structure (Cumming et al., 2012) which means that the success of campaign is merely when the target amount is surpassed or reached and then investors become direct shareholders in the company.

The function, characteristics and features of Crowdcube fit the purposes of this thesis in several ways. First, among UK crowdfunding platforms, Crowdcube has the largest sample size and the longest trading history. The campaigns on the sites include a thorough project description, financial estimates, and a video, among other things. Project founders present their ideas in exchange for a specific amount of funds and a specific number of shares. Second, because Crowdcube involves a large number of small investors, it is particularly well suited to entrepreneurial finance research. As a result, this environment offers me with a sufficient number of companies that have raised funds through EBC (Vismara, 2016; Walthoff-Borm, Schwienbacher, et al., 2018).

#### 4.4 Summary Statistics and Models

The following sections examine the specific models utilised to examine this data set.

##### 4.4.1 Sample Selection

To conduct my study, my data are collected from the independent sources, the website of Crowdcube (<https://www.crowdcube.com/>), which is based in the UK. Crowdcube was the first platform to operate EBC since 2011 in the UK and is under authorisation and regulation of the Financial Conduct Authority (FCA). Initially, data were collected from the 850 projects funded between 2011 and 2019 in the whole category on Crowdcube by using manual collection. I also consider whether each of the campaigns in the sample represents a first-time campaign or a follow-on fundraising and remove it if the campaign is a follow-on fundraising, as the probability of EBC success for follow-on campaigns is likely to be higher. Thus, only the first-time campaign project is included in the data by going through all the projects in each year from 2011 to 2019. Crowdcube campaigns include sections providing detailed information on the management team, firm age, social media, the business idea, and financial funding. For example, in the project of Monzo, its firm age is 4; the number of social media channels is 3 and funding amount is 9929990 (see Fig. 13 for an illustration).

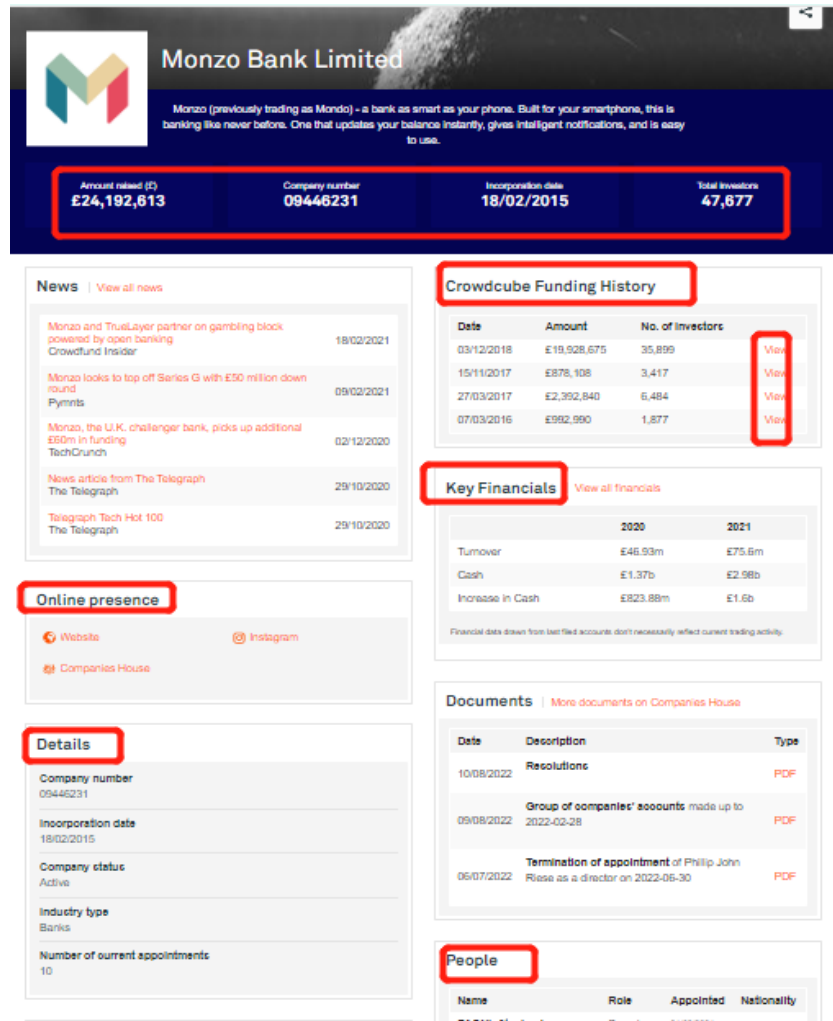


Figure 13 An illustrative sample campaign from Crowdcube; the solid box (drawn by author) shows that each campaign contains information related to the project and fundraising characteristics I consider. Details appear when a user clicks on these tabs

There are 31 projects removed from my data because of operating overseas without information of its business age to reduce cross-country heterogeneity. 33 projects were removed due to lack of information of social media's number or incorporation date and cannot be accessed in the platform because they withdrew their projects from crowdfunding or platform deleted it. 11 projects raised funding via bond rather than EBC. Thus, there are 607 projects made in my data. An important stage of the research was the information usable and available, such as firm age (incorporate date), team members and fundraising information, on the website of Crowdcube (see Fig. 13 for an illustration) which were used for empirically testing the hypotheses, to examine the relationship between the success of projects and the factors collecting on the website. Table 1 provides an overview of my selection criteria.

Table 1 Sample selection criteria

	Crowdcube	Percentage
Number of campaigns (2011-2019)	850	100%
Reason for exclusion		
Campaigns by non-UK firms	31	3.65%
Bond	11	1.29%
Missing information	33	3.88%
Follow-on campaigns	168	19.76%
Campaigns in sample	607	71.41%

Missing information concerns missing information about the campaign and/or company or cannot be access in the platform because they were withdrawn their projects from crowdfunding or platform delated it

#### 4.4.2 Variables and Definitions

Table 2 provides an overview of the variables used in the analysis. The main variable of my interest is EBC success. The independent variables in my study are based on different campaigns, companies, and their characteristics. I retrieve information about the campaigns (such as the date the campaign has been launched, the target, the amount of equity offered, the amount raised, whether it is a first-time in crowdfunding campaign). For this purpose, I need to have some modification on the data from the individual website of Crowdcube platforms, such as removing secondary listings in crowdfunding.

##### 4.4.2.1 Dependent Variables

I used two sets of dependent variables in my analysis of investment selection. In Table 17, I used the percentage of funding amount ( $\ln_{\text{percentage\_raised}}$ ) as dependent variables, using natural logarithms in empirical analysis. The percentage of funding amount is measured as the percentage of the actual funding amount collected at the end of each campaign to target capital to indicate whether a campaign is successful and overcome its target. Several recent studies of EBC have used this measure of EBC campaign success (Ahlers et al., 2015; Cumming et al., 2019; Vismara, 2016). This variable is an adjusted measure of campaign success that

indicates how much capital has been raised or how close the campaign amount was to reaching the target. I also used the number of investors participating in the EBC campaign (In\_No\_investors) as an alternative dependent variable, measured at the end of each campaign, using natural logarithms in empirical analysis, is an important assessment of success, as project founders aim to raise funds from a large number of investors. This goal is in line with the literature on EBC (Cumming et al., 2019) and public offers (Megginson, 2005), when everything else equal, the value of existing majority shareholders is more than the value of the new entry of a dispersed minority shareholders.

*Table 2 Variables and variable definitions Variable description*

	Variable description
<b>Dependent variables</b>	
Funding amount (%)	The percentage of the actual funding amount to target capital
Investors	The number of investors at the end of each campaign.
<b>Explanatory variables</b>	
Age (in years)	The company age in days at the start of the campaign calculated as the difference between the starting date of the campaign and the incorporation date of the company.
Team member	The number of management team in a project at each campaign.
Social media	The number of social media channels including company's official website, Twitter, Instagram, Facebook and LinkedIn
Target amount (in £)	The target amount of the campaign.
Equity offered (%)	The percentage of equity offered in the campaign.



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Voting right threshold	Ordinal variable that 0 if the shares is without carrying voting rights, 1 if the shares are with carrying voting rights threshold value between £0 to £3,000, 2 if the shares are with carrying voting rights threshold value between £3,000 to £5,000, 3 if the shares are with carrying voting rights threshold value between £5,000 to £10,000, and 4 if the shares are with carrying voting rights threshold value over £10,000.
Control variables	
EIS INCENTIVES	Dummy variable that equals 1, if the campaign is eligible for the UK Enterprise Investment Scheme (EIS) and 0 otherwise.
London location	Dummy variable that equals 1, if the company is located in London and 0 otherwise.
Video Set	Dummy variable that equals 1, if the company has attached with video and otherwise.

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#### 4.4.2.2 Explanatory Variables

Information on a Project and its fund-raising characteristics were retrieved from the Crowdcube website for each campaign.

##### ***Project characteristic***

In all Models, a series of project variables is set, including the regressors Age, Team member and social media. To define project characteristic factors, I collected data on the year of company's incorporation date, team members data and the number of social media channels. I used this information to calculate the Age ,the company's age (in year), which is the difference between its incorporation date and the year it entered into the crowdfunding campaign (Ralcheva & Roosenboom, 2020). It is as a

proxy for a firm's growth and experience. The length of time a company has existed can also tell a potential investor more about the company, assisting to socially identify with various aspects of it. For Team member, I used the information on the campaign site by counting the number of management members in the entrepreneurial campaign, as reported on the "Team" page of each campaign. This can broadly capture the amount of human capital in each crowdfunding campaign. It is a proxy for human capital. Higher human capital is related to superior outcomes in various aspects of the start-up businesses (Vismara, 2019). For social media, I use the information (see Fig. 13 for an illustration) from the section of "online presence" in company campaign site by counting the number of social media channels including company's official website, Twitter, Instagram, Facebook and LinkedIn. It is a proxy for network capital. It can increase the possibility of campaign's exposure and can introduce project founders to potential new stakeholders (such as clients), thus broadening their networks (Ahlers et al., 2015).

#### ***Fundraising structure characteristic***

In Model of Project characteristic and fundraising characteristic, I include among my regressors Target amount, Equity offered and Voting\_threshold. The target amount ( $\ln\_Target$  amount) , using natural logarithms, to be raised in the crowdfunding campaign as a measure of project fund-raising size (in thousands of British pounds) (Ahlers et al., 2015; Cumming et al., 2019). In practice, apart from the campaign's target amount is primarily set up by the needs of entrepreneurial venture, project founders are likely to make adjustments for strategic purposes based on the desire to signal their commitment, as well as on entrepreneurial expectations of their individual capability to attract crowdfunding investments (Vismara, 2016). The explanatory variables are the percentage of equity offered to investors (Equity\_Proposed), as displayed on the main page of each campaign. Project founders can effectively transmit information of their venture by the display of the amount of equity they are proposing. The rationale is that projects financing by ownership interests, according to pecking order theory is costly, so project founders will only retain a substantial ownership interest if they expect future value of firm to be higher compared with current firm value. A substantial ownership interest in the

firm can also assist better integration of different funders' interests. Thus, the amount of equity proposed is a signal, set actively by founders (Ahlers et al., 2015).

Additionally, my empirical analysis includes ownership that are uniquely observable for crowdfunding campaigns on Crowdcube, where companies are provided the possibility of proposing both A-shares (carrying voting rights) and B-shares (not carrying voting rights) shares directly with small investors. Companies can set an amount of threshold value under which no voting rights are offered, making the issuance of A-shares and B-shares depending on the decision of the individual investor (Cumming et al., 2019). The variable A-share threshold value (*Voting\_threshold*) measures the minimum investment required to obtain A-shares. In my empirical analysis, I define a ordinal variable threshold amount to access direct investment (it is with direct voting right) that equals 0 if investors' shares are with non-voting right in the crowdfunding campaign, equals 1 if investors' shares are with voting right and threshold amount between £0 to £3,000 in the crowdfunding campaign, equals 2 if investors' shares are with voting right and threshold amount between £3,000 to £5,000 in the crowdfunding campaign, equals 3 if investors' shares are with voting right and threshold amount between £5,000 to £10,000 in the crowdfunding campaign, and equals 4 if investors' shares are with voting rights and threshold amount over £10,000 in the crowdfunding campaign. Moreover, I transfer to five dummy variables in OLS regression and use ordinal variable in robustness tests.

#### 4.4.2.3 Control Variables

In all my analyses, I include a series of variables concerning the issuing firm, collected through the presentation pages for each project made available by Crowdcube, to control for a potential impact on the different outcome variables in use, along the line suggested by Ahlers et al., (2015) and Cumming et al., (2019b). I include among my regressors EIS Incentives, London Location and Video Set. First, I control for EIS Incentives as dummy identifies which projects qualifies under the UK Enterprise Investment Scheme, which was designed to encourage seed investments in early-stage companies of up to £1 million in capital raised. SEIS or EIS equals 1 if the crowdfunding's project is eligible for the UK Enterprise Investment Scheme (EIS),

which is designed to encourage investment in smaller and higher-risk company with up to £1 million capital and to receive 30% tax relief or Seed Enterprise Investment Scheme (SEIS) tax incentive, which is designed to encourage seed investment in early-stage companies with maximum amount £150,000 capital to be raised and to receive initial tax relief of 50% on investments up to £100,000. I transfer to five dummy variables when I analyse.

Moreover, I also control for London Location as dummy identifies that equals 1 if the crowdfunding's project is located in London, varying degree of venture survival prospects in UK. There are potentially better venture survival prospects in metropolitan areas, especially in London. And I control for Video Set as dummy identifies that equals 1 if the crowdfunding's project makes use of video in communicating with potential investors in EBC platforms.

I also control for industry starting from Crowdcube's own classification (see Fig. 13 for an illustration from industry types). Offerings are classified as pertaining to 12 industries: 1) Media/arts; 2) energy and environment; 3) Retail/Wholesale; 4) restaurant (web/site); 5) ICT (Communications, computer and electronics); 6) Manufacture; 7) teaching and learning; and 8) Retail & Consumer Products ; 9) Biotech and healthcare; 10) Construction Real estate; 11) Financial and Business services; 12) others, but these variables were insignificant (possibly due to the sample size in these subcategories). Finally, I also control for year into crowdfunding starting from 2011 to 2019. In the period of 2017 to 2019, the companies campaigning on both EBC platforms were older and employed larger boards of team members. Taken together this evidence suggests that the EBC market has matured over time and that more established companies have turned to EBC as a viable financing alternative. Moreover, I include year dummies to avoid any general economic trend or event driving my findings. These dummies control for differences before 2016 and after 2016 average cost of financing or differences in the availability of financing sources across years.

#### 4.4.3 Models

##### ***Linear regression models***

Ordinary least squares (OLS) were first introduced to examine the group of datasets and to discover and generate the probable best models that need to meet the assumption of Gauss-Markov theorem. Thus, OLS can provide the best suitable linear estimators of unbiasedness. Moreover, an ordinal logit regression was introduced to avoid biased estimators due to the actual observations of the dependent variable and to validate the results which Ordinary least squares (OLS) produce.

Ordinary least squares (OLS) estimator can be applied to obtain estimator of coefficients,  $\beta$ . It is the parameters in a linear regression. For instance, the explanation of unknown true estimation can possibly be as the following equation,  $y_i = \alpha + \beta_1 x_{i1} + \beta_2 x_{i2} + \beta_3 x_{i3} \dots + \varepsilon_i$ , if there is a linear relationship between the dependent variable  $y_i$ , the explanatory variables  $x_i$ , and the unobserved error terms  $\varepsilon_i$ . Furthermore, the population of the estimated impact of the explanatory variables on the dependent variable can be explained by the calculated coefficients  $\beta$  in ordinary least squares' equation.

The Gauss-Markov assumptions are a batch of full ideal condition for the linear regression model. Under the satisfaction of the Gauss-Markov assumptions, Ordinary least squares (OLS) can calculate the best linear unbiased estimators.

The assumptions are as follows:

- 1) Zero mean;  $E[\varepsilon_i] = 0$ .
- 2) Independence of errors:  $[\varepsilon_1, \varepsilon_2, \varepsilon_3, \dots, \varepsilon_n]$  and  $[x_1, x_2, x_3, \dots, x_n]$  are independent
- 3) Homoskedasticity:  $\text{Var}(\varepsilon_i) = E[\varepsilon_i^2] = \sigma^2$
- 4) Independence of error term:  $\text{cov}(\varepsilon_i, \varepsilon_j) = 0, i \neq j$
- 5) lack of perfect Multicollinearity

Therefore, the linear regression can meet and satisfy these 5 Gauss Markov assumptions, then ordinary least squares will provide the true unbiased estimators

for the unknown population parameters. The following sections describe the details of specific procedures which can be applied to test the satisfaction of the Gauss-Markov assumptions in terms of above specific conditions which can lead to biased estimators for this model.

### ***Testing multicollinearity in models***

Multicollinearity can exist in models when there is the higher correlation in two occurs explanatory variables, then leading to misunderstanding the correlation of these two explanatory variables and dependent variable and be difficult to distinguish the influence of either variable upon the dependent variable. Not perfect multicollinearity can be considered as not violating the Gauss-Markov, but it should be reduced because it could raise the variance of the estimators. Multicollinearity can be assessed by using the Vector Inflation Factor (VIF) Stata to state whether the models have the problem of multicollinearity, and it can be calculated for the models by using SPSS.

### ***Testing possible Heteroscedasticity in models***

The problem of Heteroscedasticity can occur when the conditional variance of the error term is not constant across the observations and over time. The error variance is a measure of model uncertainty. As with heteroscedasticity, it implies that the model uncertainty cannot be the same in all observations. Thus, the OLS estimator will be not efficient if the models exhibit the problem of heteroscedasticity. To address this potential problem, robust standard errors (White, 1980), weighted least squares estimation and log transformation can be utilised. These can be carried out by SPSS when using the regression function to analyse the data.

### ***Test of autocorrelation***

Autocorrelation (also called serial correlation) considers the problem that a signal of correlating with lag itself as a function of delay. Autocorrelation is the similarity of a time series over successive time intervals. It can result in underestimating the model of standard error and can lead to mislead a predictor that are significant, but they are actually not. Models are attached with autocorrelation, then its data violate the

assumption of independence of most standard statistical procedures. Therefore, I use the Durbin Watson Test as a measure of autocorrelation in residuals from regression analysis. In order to address this potential problem, a measure of autocorrelation are utilised, a method suggested by Durbin & Watson (1950). The values of the Durbin Watson (DW) Test values under 1 or more than 3 are a definite cause for concern (Field, 2013).

***robustness check***

I conducted a set of robustness checks. First, ordinal logistic regression was utilised to validate the results further. I will perform an additional robustness check on the dependent variable of fundraising percentage in this section. Precisely, ordinal logistic regression will be utilised and for the analysis, the percentage funding of the campaigns will be split into 8 groups. The borders of the groups are below 100%, below 110%, below 120%, below 130% and below 150%, below 160%, below 200% and over 200% as to the sample size in each group is closely the same. Then, I also performed the additional ordinary least squares regression analysis and divide the observations into 3 groups based on different years, 2015-2017, 2016-2018, 2015-2019 as the crowdfunding platform has modified its website and the structure of display from 2015 and evaluated the models again on percentage of fundraising.

***Ordinal logit regression***

There are n sets of independent observations on a dependent variable y taking ordinal value 1 to k. The ordinal logistic regression model can be utilised rather than be used to measure the information about the ordering (Bender & Grouven, 1997). The ordering is utilised for cumulative probabilities, cumulative odds and cumulative logits. These quantities can be defined by:

$$P(Y \leq j) = P_1 + \dots + P_j$$

$$\text{Odds } (P(Y \leq j)) = P(Y \leq j) / P(Y > j) = (P_1 + \dots + P_j) / (P_{j+1} + \dots + P_{k+1})$$

$$\log (P(Y \leq j) / P(Y > j)) = \text{logit}(P(Y \leq j)), j = 1, \dots, k$$

The ordinal logistic regression is given by:

$$\text{logit}(P(Y \leq j)) = \alpha_j + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n, j = 1, \dots, k$$

**Model definition:**

The dataset is examined in 4 different models, some variables in the models are transformed by logarithms (natural log transformation) as weights in order to overcome omitted variable bias. The details of the models are as follows:

Model 1: Project characteristic signals model

This model considers all the variables which can be identified as signals sent by the characteristic of project in the campaign and using two dependent variables, amount of funding raised and the number of investors, as measure of campaign 's success. The author will compare the project characteristic signals model with the main model by utilising different measures such as AIC, BIC, and R squared measures, to identify which of the OLS models has the best goodness of fit.

The dependent variables are:

$Y_t$  = Amount of funding raised for project t (%) or  $Y_t$  = the number of investors in project t

$$\text{Log } Y_t = \alpha + \beta_1 * \text{Firm age} + \beta_2 * \text{Team member} + \beta_3 * \text{social media} + \beta_5 * \text{Controls} + \varepsilon_t$$

Model 2: Main model-Project characteristic and fundraising characteristic signals:

The second model adds the fundraising characteristic measurements which capture the impact of setting fundraising structure in the model and use two dependent variables, amount of funding raised and the number of investors, as measure of campaign 's success as well. The author will compare the main model with the project characteristic signals model by utilising different measures such as AIC, BIC, and R squared measures, to identify which of the OLS models has the best goodness of fit.



$Y_t$  = Amount of funding raised for project  $t$  (%) or  $Y_t$  = the number of investors in project  $t$

$\text{Log } Y_t = \alpha + \beta_1 * \text{Firm age} + \beta_2 * \text{Number of team member} + \beta_3 * \text{Number of social media channels} + \beta_4 * \text{amount of target funding} + \beta_5 * \text{Amount of equity share offered} + \beta_6 * \text{The threshold value of voting right Dummy} + \beta_7 * \text{Controls} + \epsilon_t$

***Interaction effect model:***

The author also considers the interaction effect between three project characteristic factors and fundraising characteristic factors, thus adding the interaction variables in the model to identify whether there is significant effect on the success of crowdfunding campaigns.

$\text{Log } Y_t = \alpha + \beta_1 * \text{Firm age} + \beta_2 * \text{Number of team member} + \beta_3 * \text{Number of social media channels} + \beta_4 * \text{amount of target funding} + \beta_5 * \text{Amount of equity share offered} + \beta_6 * \text{The threshold value of voting right Dummy} + \beta_7 * \text{interaction variables} + \beta_8 * \text{Controls} + \epsilon_t$

**Model 3: Ordinal logit regression model**

The third model is ordinal logit regression model which is to ensure the reliability of the results of OLS. The author conducts robustness test by the third model. The author replaces dependent variable with alternative measures of project founders' success in crowdfunding and splits up the percentage of funding raised by the eight groups in below 100%, below 110%, below 120%, below 130% and below 150%, below 160%, below 200% and over 200% respectively. The 8 groups are as dependent variables in an ordinal logistic model.

$\text{Logit } (P(Y \leq j)) = \alpha + \beta_1 * \text{Firm age} + \beta_2 * \text{Number of team member} + \beta_3 * \text{Number of social media channels} + \beta_4 * \text{amount of target funding} + \beta_5 * \text{Amount of equity share offered} + \beta_6 * \text{The threshold value of voting right Dummy} + \beta_4 * \text{Controls} + \epsilon_t$

The third model uses all the variables from the model one, the percentage funding of the campaigns will be split into 8 groups in this ordinal logit regression. The borders of the groups are below 100%, below 110%, below 120%, below 130% and below 150%, below 160%, below 200% and over 200% as to the sample size in each group is closely the same (Table 3).

*Table 3 Sample size in ordinal logistic regression*

	Category	N	Marginal Percentage	Cumulative Percentage
Fundraising (%)	<100	58	9.56%	9.56%
	100-110	104	17.13%	26.69%
	110-120	74	12.19%	38.88%
	120-130	66	10.87%	49.75%
	140-150	71	11.70%	61.45%
	150-160	77	12.69%	74.14%
	160-200	90	14.83%	88.96%
	>200	67	11.04%	100.00%
Total		607	100%	

***Akaike information criterion (AIC) and Bayesian information criterion (BIC)***

The results' tables demonstrate the differences between the Project characteristic and fund-raising characteristic model and the Project characteristic model. The tables also provide several R squared measures that can be used to assess the goodness of fit of OLS models. Moreover, the Bayesian information criterion (BIC) is also supplied; this measure, created by Gideon E. Schwarz, can be used in model selection, with the model with the lowest BIC value being recommended (Schwarz, 1978). The formula for BIC is as follows:

$$BIC \equiv -2 \ln \mathcal{L}_{\max} + k \ln N$$

Whereby  $\mathcal{L}_{\max}$  is the maximum likelihood possible to be achieved in the model, k is the number of parameters and N is the number of datapoints used in the fit (Liddle,

2007). In addition, the Akaike information criterion (AIC) is provided; this is a comparable measure to BIC, with a lower AIC value indicating a recommended model (Akaike, 1974). The Formula for AIC is as follows:

$$AIC \equiv -2 \ln \mathcal{L}_{\max} + 2k$$

Similar to BIC  $\mathcal{L}_{\max}$  is the maximum likelihood possible to be achieved in the model and  $k$  is the number of parameters (Liddle, 2007).

#### 4.5 Summary

This chapter has outlined the data collection, models and analysis procedure for EBC examined within this thesis. In the next chapter, the results of the empirical analysis will be presented. This consists of three parts: summary statistics, univariate analysis, and multivariate analysis.

*Table 4 Descriptive statistics*

	Obs.	Mean	Median	Std. dev.	Min	Max
<b>Dependent variables</b>						
Funding amount (%)	607	147.041	130.000	62.582	39	594
Investors	607	345.180	212.000	507.146	1	7967
<b>Explanatory variables</b>						
Age (in years)	607	3.190	2	2.858	0	19
Team	607	2.620	2	2.033	1	11
Social media	607	3.620	4	1.515	1	5
Target amount (in £)	607	316,734	180,000	365,744	12,000	4,000,000
Equity Proposed (%)	607	15.088	14.820	22.391	0	100
Voting right threshold	607	2.290	3	1.496	0	4
<b>Control variables</b>						
EIS_INCENTIVES	607	0.895	0	0.307	0	1
London location	607	0.471	0	0.500	0	1
Video set	607	0.130	0	0.331	0	1

This table presents the descriptive statistics of the variables used in this study. See Table 2 for variable definitions

## 5 ANALYSIS AND RESULTS

In this chapter, the results of the empirical analysis are presented. This chapter consists of three parts: summary statistics, univariate analysis, and multivariate analysis. In the first part, I describe characteristics and activities of all crowdfunding campaigns in my sample. In the second part, I compare the characteristics and activities of successful and unsuccessful campaigns in terms of their location, industry, year of incorporation, year into crowdfunding campaign, project characteristics and fund-raising structure characteristics. In the third part, I examine the causal factors of the success of EBC campaign by including potential explanatory variables and control variables. In addition, in a subsection in part three, I focus on successful EBC campaign, and examine what factors lead to success of these projects.

### 5.1 Summary Statistics

Tables 4, 5, 6, and 7 present the descriptive statistics of the whole sample, Crowdcube, the sample split between successful and unsuccessful campaigns, as well as for different periods in time. Table 4 shows that the average success rate in my sample is relatively high (549/607). It is possible that this is because my data only includes projects that are crowdfunding for the first time, and the platform may have erased some of the unsuccessful cases when I collected my data. As a result, the obtained sample is not proportionately representative of the population. For explaining EBC success, I first consider two important campaign characteristics – the target amount and the percentage of equity offered. The average target amount in my sample is around £315,000 and ranges between as little as £12,000 and £4 million, much larger than in reward-based crowdfunding (Colombo 2016). The average equity offered is around 15%, which suggest that on average 85% of the equity is retained by the initial owners of the company. The investment voting right threshold value is around 2.6, which is £3000 to £5000.

I further look at how different company characteristics (such as age, team member, social media channels, the target amount and equity proposed) may affect EBC success. The companies in my sample are on average 3 years and 2 months old,

ranges between as little as within one year into EBC and incorporate over 19 years. The main responsibility for effectively promoting and successfully managing not only the business but also the EBC campaign lies largely in the hands of the project founder and his/her team (Piva & Rossi-Lamastra, 2018). Because of this, several characteristics relating to the director team (i.e., the number of directors) and the use of social media (i.e., the number of social media channels) were included in the analysis.

The average team members in my sample have 2.6 team members and ranges from 1 to 11, a smaller number than the 3.3 team members for EBC project' team member size reported by Vismara (2016b). Although this difference is due partly to Vismara's including other platforms and sample campaigns only from 2011 to 2014. Most projects (89.5 %) are eligible for tax incentives under the Enterprise Investment Scheme (EIS). Only 13% of projects attach with video in their introduction in the crowdfunding campaign. About half (47.1%) of projects are based in London, similar with the EBC project' location reported by Vismara (2016b). The average social media channels in my sample have 3.6 channels and ranges from 1 to 5.

I additionally take into account whether each of the campaigns in my sample represents a first-time campaign or a follow-on fundraising and remove it, if so. Because the business has already undergone the market's scrutiny and the probability of EBC success for follow-on campaigns is likely to be higher. It may have impact on my models and lead to a deviation on my result.

## 5.2 Univariate Analysis

With a univariate analysis, I explore whether and how successful campaigns differ from the rest of unsuccessful campaigns in terms of the described attributes. Table 5 presents the difference in means and medians between successful and unsuccessful campaigns. I find that successful campaigns tend to have higher valuations on average as derived by their higher targets and higher proportions of equity on offer, contradict hypotheses H5 and H6. In project characteristics, companies that launched successful campaigns are significantly older (3.2 years old), in comparison to

unsuccessful campaign's 2.3 years ( $t=-3.25$ ,  $p<0.01$ ) and higher number of team members in successful campaigns (2.7), compared with unsuccessful campaign's 1.9 years ( $t=-2.74$ ,  $p<0.01$ ) and no significant difference on social media channels (3.6), in comparison to unsuccessful campaign's 3.3years ( $t=-1.54$ ,  $p>0.10$ ). I also discovered that when the amount of team member is above the age of 4, there is less additional value to the success of a crowdfunding campaign in comparison on the difference of team members.

For fundraising characteristics, the mean of target amount in successful campaigns is 312,009, slightly less than unsuccessful, 316,451. However, in terms of outcome of test to difference, I find no statistically significant difference ( $t=0.61$ ,  $p = 0.543$ ) between successful campaigns and unsuccessful campaigns regarding target amount. Moreover, successful campaigns, 2.35, significantly set a higher number of voting right threshold ( $t = -2.48$ ,  $p<0.05$ ) than unsuccessful campaigns' 1.79, while successful campaigns, 15.11%, are preferred to offer more equity by founders ( $Z=-2.099$ ,  $p < 0.05$ ) than unsuccessful campaigns, 14.83%.

For control factors, a smaller portion of them is located in London for successful campaign projects (46% vs. 53%), but no significant difference was identified. Nor was there significant difference regarding EIS (tax relief) and producing a video introduction.

Thus, I find initial support for my hypothesis on the project characteristic of human capital, firm age and fund-raising characteristic of voting right threshold value and offering equity. And my results are derived without controlling for simultaneous effects.

Table 5 The difference in means and medians

Variables	Group Statistics					Test difference in means		Test difference in medians	
	Group	N	Mean	Std. Deviation	Std. Error Mean	t	Sig.	Z	Asymp. Sig.
Funding amount (%)	unsuccess	58	95.13%	8.26%	1.08%	-19.706	0.000***	-12.537	0.000***
	success	549	152.52%	63.31%	2.70%				
Investors	unsuccess	58	191.79	219.51	28.82	-4.642	0.000***	-4.46	0.000***
	success	549	361.39	525.97	22.44				
Age (in years)	unsuccess	58	2.33	2.021	0.265	-3.245	0.002***	-2.265	0.023**
	success	549	3.28	2.919	0.125				
Team	unsuccess	58	1.93	2.085	0.274	-2.739	0.006***	-3.363	0.001***
	success	549	2.7	2.016	0.086				
Social media	unsuccess	58	3.33	1.549	0.203	-1.544	0.123	-1.746	0.081*
	success	549	3.65	1.51	0.064				
Target amount (in £)	unsuccess	58	361451.9	605548.89	79512.46	0.612	0.543	-0.067	0.947
	success	549	312009.96	330985.24	14126.1				
Equity Proposed (%)	unsuccess	58	14.83%	14.09%	1.85%	-0.091	0.928	-2.099	0.036**
	success	549	15.11%	23.10%	0.98%				
Voting right threshold	unsuccess	58	1.79	1.63	0.214	-2.487	0.015**	-2.61	0.009***
	success	549	2.35	1.473	0.063				
London Location	unsuccess	58	0.534	0.503	0.066	1.015	0.311	-1.015	0.31
	success	549	0.464	0.499	0.021				
EIS Incentives	unsuccess	58	0.844	0.365	0.047	-1.108	0.272	-1.296	0.195
	success	549	0.899	0.3	0.012				
Video set	unsuccess	58	1.14	0.348	0.046	0.307	0.759	-0.308	0.758
	success	549	1.12	0.33	0.014				

This table presents the mean and median statistics of successful and unsuccessful campaigns separately. Successful crowdfunding campaign (549 projects) and unsuccessful crowdfunding campaign (58 projects). The sample covers 607 crowdfunded projects. The significance levels are based on t-statistics (mean), the Mann-Whitney U test (rank), or a Z-test of equal proportions as required. \*\*\*, \*\* and \* denote statistical significance at the 1%, 5% and 10% level, respectively. See Table 2 for variable definitions.

Table 6 The difference in team member

		team=1	team=2	team<=4	team>4	Total	F	Sig.
Funding amount (%)	Mean	134.0161%	150.5385%	153.6726%	154.9072%	147.0412%	4.048	0.007
	N	186	156	168	97	607		
Investors	Mean	181.48	361.54	389.82	555.47	345.18	13.267	0.000
	N	186	156	168	97	607		

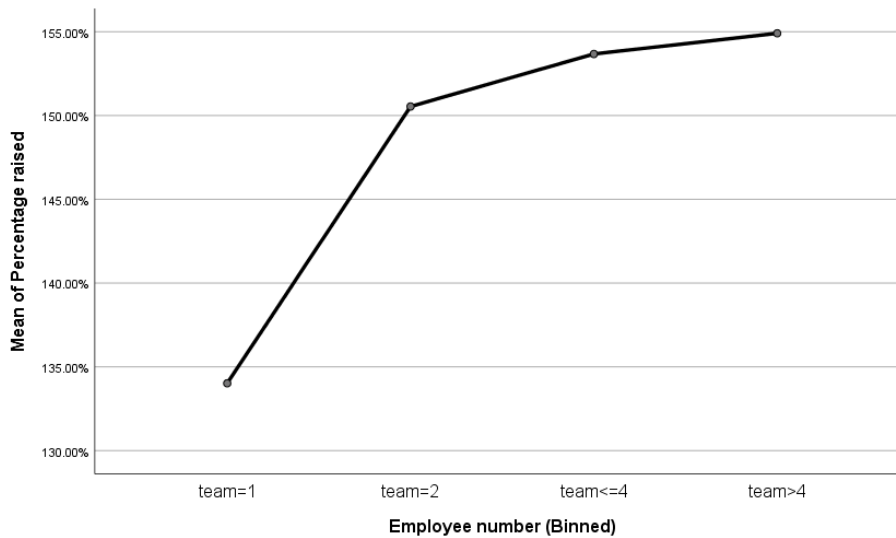


Figure 14 The difference in team member

Table 7 reports the evolution of EBC campaign attributes over time (2011–2019). According to Table 7, campaigns launched more recently (2016– 2019) are much more likely to be successful than campaigns launched in the early days (2011–2015) of Crowdcube. The average target amount and equity offered have also steadily increased over time. More recent campaigns are launched by companies, which offered less equity to investors, attached with higher voting right threshold value or higher target amount. In the period of 2016 to 2019, the companies campaigning on both EBC platforms were older and employed larger boards of team members. Taken together this evidence suggests that the EBC market has matured over time and that more established companies have turned to equity crowdfunding as a viable financing alternative. Additionally, the number of campaigns in early years is so small that results in too small of a control sample for those years. Therefore, the year before 2016 and after 2016 was used also for the control variables in the models (J. & M.V.J., 2007). To control for these changing market conditions and for not readily



observable changes in the way platforms operate, I include year as control variable in my regressions on the determinants of success.

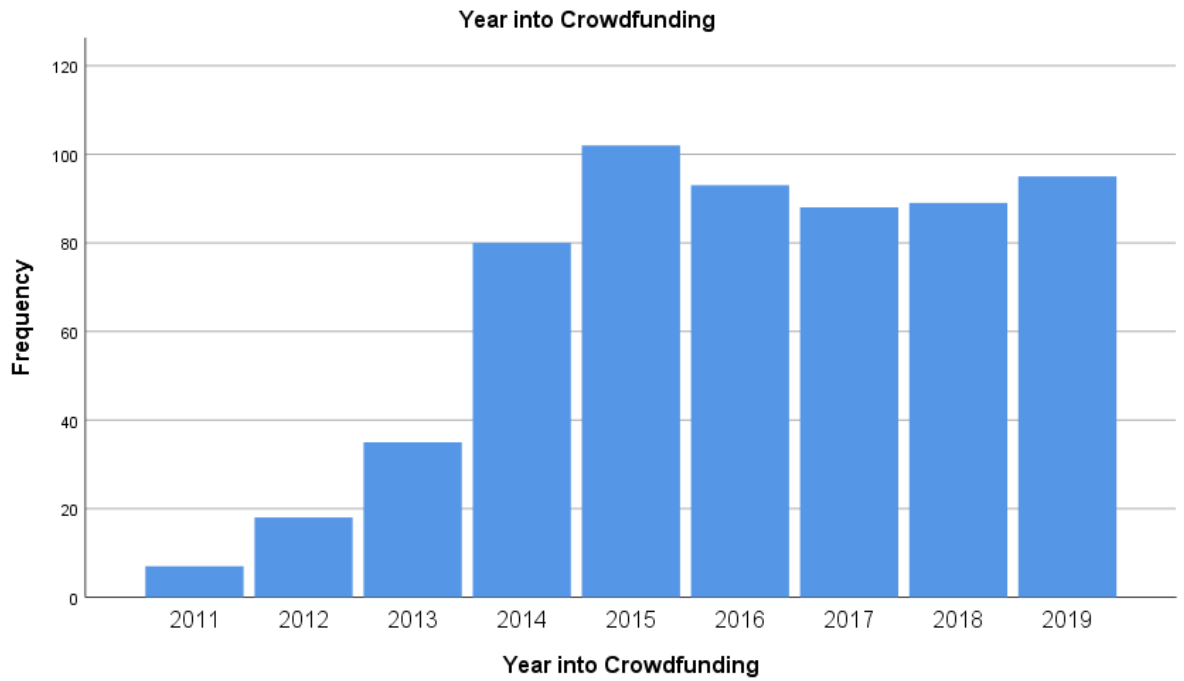


Figure 15 Frequency of projects in years

Table 7 Equity crowdfunding over time

	2011	2012	2013	2014	2015	2016	2017	2018	2019	F-test Success
Dependent variables										
Funding amount (%)	105.143	96.333	129.571	138.938	137.235	149.065	149.125	149.472	177.337	5.869***
Investors	88.290	58.560	104.710	132.410	244.020	293.280	483.820	466.780	603.290	9.893***
Explanatory variables										
Age (in years)	3.710	2.560	2.090	2.480	2.630	3.520	3.240	3.560	4.160	3.750***
Team	2.430	1.890	1.310	2.210	2.520	2.670	3.010	2.880	3.070	3.858***
Social media	3.000	2.560	1.510	2.290	2.640	4.140	4.580	4.710	4.400	73.168***
Target amount (in £)										4.212***
	232,421.430	111,934.440	176,127.710	214,700.250	307,744.310	279,623.660	394,750.000	370,898.880	422,447.370	
Equity Proposed (%)	23.857	22.722	20.625	17.197	16.605	10.813	16.218	13.778	11.916	1.549
Voting right threshold	1.000	0.720	2.200	2.510	2.290	2.310	1.990	2.350	2.760	5.266***
Control variables										
EIS_INCENTIVES	1.000	0.889	1.000	0.963	0.951	0.828	0.909	0.820	0.853	3.059***
London location	0.286	0.444	0.314	0.475	0.500	0.505	0.443	0.472	0.505	0.743
Video set	1.140	1.220	1.000	1.000	1.010	1.020	1.360	1.120	1.260	15.052***
Number of successes	6	13	33	68	93	86	80	81	89	
Total observations	7	18	35	80	102	93	88	89	95	

This table shows the mean statistics for each year from 2011 to 2019. The last column shows an F-test testing for differences over time. \*\*\*, \*\* and \* denote statistical significance at the 1%, 5% and 10% level, respectively. See Table 2 for variable definitions.

Table 8 shows that Offerings are classified as pertaining to 12 industries (industry starting from Crowdcube itself classification (see Fig. 13 for an illustration from industry types) ): 1) Media/arts; 2) energy and environment; 3) Retail/Wholesale; 4) restaurant(web/site); 5) ICT (Communications, computer and electronics); 6) Manufacture; 7) teaching and learning; and 8) Retail & Consumer Products; 9) Biotech and healthcare; 10) Construction Real estate; 11) Financial and Business services; 12) others, but these variables were insignificant (possibly due to the sample size in these subcategories). Concerning the industry distribution equity crowdfunded firms belong mainly to the Manufacture (22.1%), the Retail/Wholesale (22.2%), the ICT (Communications, computer and electronics) (14.7%), and the Financial and Business services (8.4%). There are 134 campaigns in Manufacture, 135 campaigns in Retail/Wholesale and 89 campaigns in ICT (Communications, computer and electronics). Over half (59%) of campaigns are in these three industries. Taken together this evidence suggests that the EBC market has differentiated between various individual industries and growth potentials between individual industries (Ahlers et al., 2015; Johan & Zhang, 2020; Walthoff-Borm, Schwienbacher, et al., 2018). Moreover, projects in other industries are relatively lower than in Manufacture, Retail/Wholesale and ICT results in too small of a control sample for those industries. Therefore, the group of Manufacture, Retail/Wholesale and ICT and others was used for the control variables. To capture any industry effect and for not readily observable changes in the way platforms operate, I include industry as control variable and dummy equal to 1 if in Manufacture, Retail/Wholesale and ICT (Communications, computer and electronics) and 0 otherwise in my regressions on the determinants of success.

*Table 8 Equity crowdfunding industry*

	Frequency	Percent	Cumulative Percent
Biotech and healthcare	26	4.3	4.3
Construction Real estate	25	4.1	8.4
Energy and Environment	27	4.4	12.9
Financial and Business Services	51	8.4	21.3

ICT (Communications, Computer and Electronics)	89	14.7	35.9
Manufacture	134	22.1	58.0
Media/arts	27	4.4	62.4
others	43	7.1	69.5
restaurant(web/site)	31	5.1	74.6
Retail/Wholesale	135	22.2	96.9
teaching ang learning	19	3.1	100.0
Total	607	100.0	

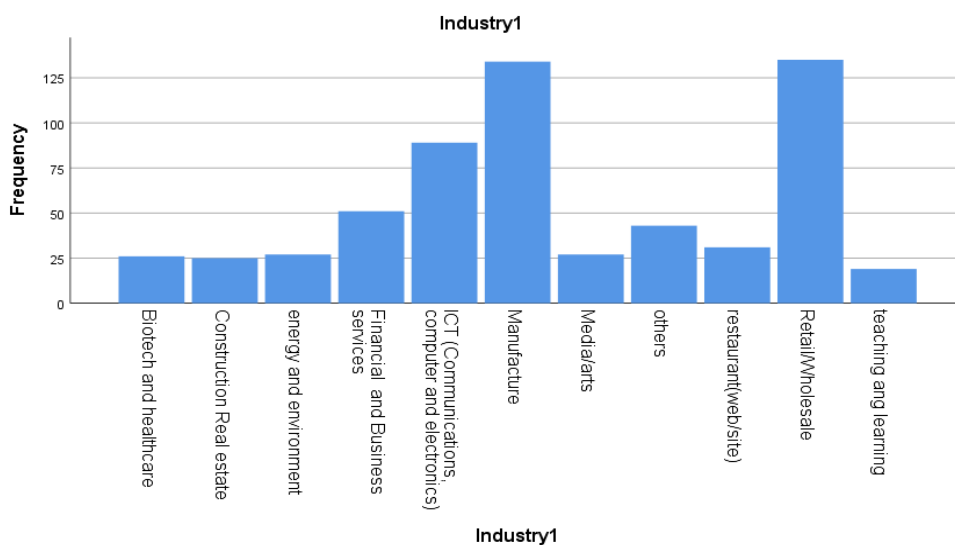


Figure 16 Frequency of projects in industry

Table 9 Shows the number of crowdfunding platforms per UK regions, in the twelve regions in the sample. EBC projects are diffused in most regions in the UK. While in south areas is concentrated respectively in Great London (286 projects), Southwest (69 projects) and Southeast (76 projects) regions, the number of EBC projects in Northern Ireland (5 projects) and Wales (9 projects) is relatively less. Considering the whole sample, the number of EBC projects ranges from five to more than two hundred depending on the region considered. There are potentially better venture survival prospects in metropolitan areas, especially in London. Moreover, I control for a possible London effect, because there is a large proportion of the crowdfunding market in the UK and crowdfunding platforms are based in London (Wright et al., 2015). The number of project campaigns in other areas are so small that random sampling results in too small of a control sample for those areas. Therefore, the control variable of London located and others were used also for the model. As equity

crowdfunding platforms are highly concentrated in London, a larger proportion of firms based in London could be attracted to these platforms in their search for financing (Walthoff-Borm, Schwienbacher, et al., 2018). Empirical evidence in table 9 indicates near 50% of crowdfunding project campaigns based in London. Thus, I include a dummy equal to 1 when the firm's headquarters is located in London and 0 otherwise.

*Table 9 location of Equity-based crowdfunding projects*

Location	Frequency	Percent	Cumulative Percent
Scotland	25	4.1%	4.3%
Northern Ireland	5	.8%	5.1%
Wales	9	1.5%	6.6%
Northeast	12	2.0%	8.6%
Northwest	26	4.3%	12.9%
Yorkshire and Humber	21	3.5%	16.3%
West Midlands	27	4.4%	20.8%
East Midlands	13	2.1%	22.9%
Southwest	69	11.4%	34.3%
Southeast	76	12.5%	46.8%
East of England	37	6.1%	52.9%
Greater London	286	47.1%	100.0%
Total	607	100.0%	

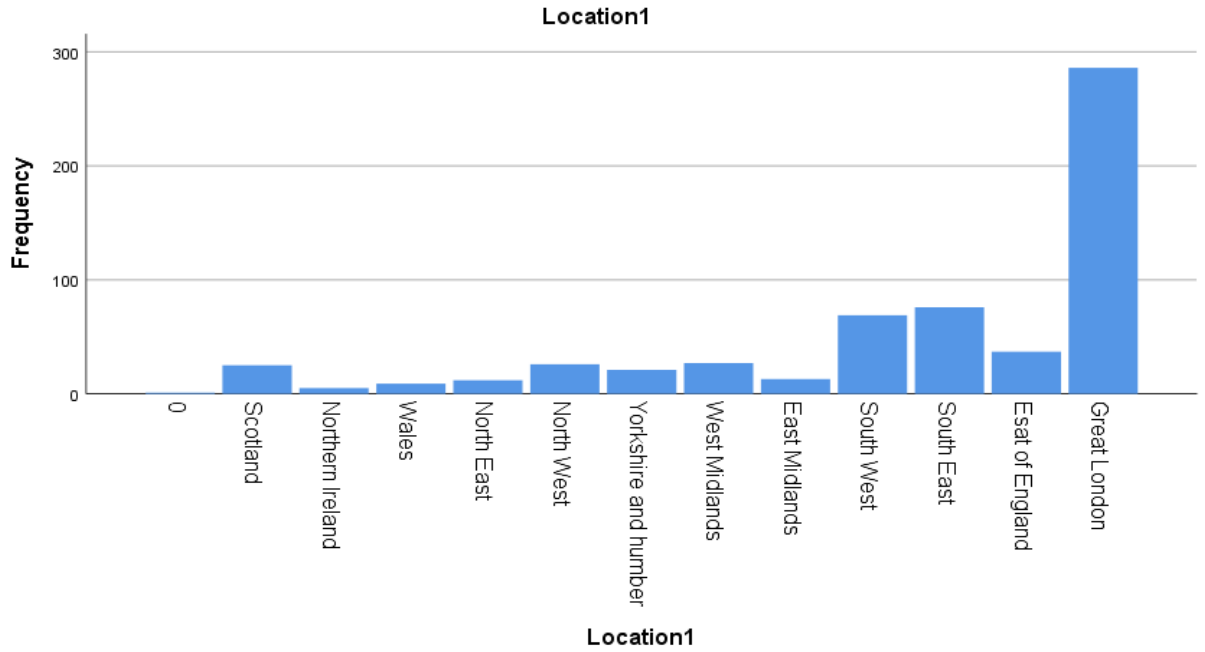


Figure 17 Frequency of projects in Location

Table 10 reports the mean statistics of EBC campaign attributes different threshold value from without voting right to investment over £10000, distinguishing between campaigns offering A-shares (i.e., with voting rights and threshold value 1 to 4) (505 observations); or B shares only (i.e., with no voting rights provided and threshold value 0) (102 cases), According to Table 10, The funding amount and the number of investors have steadily increased from threshold value 0 to 4. However, the average target amount, age, and the number of team shows the higher amount in threshold value 0 and 4 than threshold value 1,2 and 3. From equity offering, there is an opposite trend, steadily decreasing from 0 to 4. Firms that chose the shares without voting right or share with higher amount investment with voting right are on average older, with significantly higher age, with more team members and with more social media channels. More of the firms with highest threshold value offered fewest equity to investors. However, I do not find any significant difference in equity offered between the 4 groups.

Table 10 Equity-based crowdfunding Voting right threshold value

	0	1	2	3	4	F-test
						Success

Dependent variables						
Funding amount (%)	1.347	1.385	1.415	1.440	1.642	5.243***
Investors	399.2	196.1	256.8	265.3	513.6	9.834***
Explanatory variables						
Age (in years)	3.264	2.587	2.394	3.183	3.758	4.048***
Team	2.774	1.854	2.342	2.740	3.056	7.454***
Social media	3.656	3.290	3.868	3.468	3.921	4.059***
Target amount (in £)	42596	17694	24649	24170	43861	15.34***
Equity Proposed (%)	0.156	0.175	0.183	0.129	0.141	1.070
Control variables						
EIS_INCENTIVES	0.882	0.877	0.947	0.917	0.882	0.714
London location	0.470	0.374	0.447	0.449	0.567	1.479
Video set	1.176	1.099	1.131	1.088	1.146	3.026***
Number of successes	82	121	35	146	165	
Total observations	102	131	38	158	178	

This table shows the mean statistics for each threshold value of shares with voting right from shares without voting right to investment over £10000. 0 represents shares without voting right, 1 represents investment over £1000-£3000 with voting right, 2 represents investment over £3000-£5000 with voting right, 4 represents investment over £10000 with voting right. The last column shows an F-test testing for differences over these groups. \*\*\*, \*\* and \* denote statistical significance at the 1%, 5% and 10% level, respectively. See Table 2 for variable definitions.

### 5.3 Multivariate Analysis: Empirical Results

This chapter explores the results of the models and their impact on the above hypotheses developed in this thesis, enabling the main findings to be discussed in the following chapter, the structure of the chapter as follows:

**The results of models:** Provides the results of the two key ordinary least squares regressions applied to examine the projects in Crowdcube EBC platform. Examining the goodness of fit of the models and considering if multicollinearity or autocorrelation was problematic within the models.

**The results by hypotheses:** Examines the impact of the results of the models based upon each of the hypotheses developed in the **methodology** chapter. Beginning to focus on the potential implications of these results and resulting to further discussion within the findings and recommendations section of the thesis.

### 5.3.1 Model Results

This section considers the models introduced to study the key features of projects' campaigns in

the Crowdcube crowdfunding platform. The different models are ordered based upon the variables of project's characteristic and its fundraising characteristic considered, with later models using to robustness test and having the same variables with main model, but also used observations in different years based upon the restrictions concerning specific variables discussed. These models do not include each dummy variable for specific categories and each year from 2011 to 2019 based upon the restrictions concerning in section 4.4. Models with dummy variables were originally attempted; however, these variables were found to be partly insignificant or displaying high levels of multicollinearity. Instead, dummy variables of modified industry and year category was introduced into model. Thus, enabling industry and trend effects can be captured.

#### 5.3.1.1 Project Characteristic Signals Model:

The first model, below, only considers signals sent by the characteristic of project's campaign in the platform Crowdcube and using two dependent variables, amount of funding raised and the number of investors, as measure of campaign 's success. The dataset includes all projects both successful and unsuccessful campaign. It was introduced, in section 4.4.3 as the following:

Dependent Variable of Amount of funding raised:

$Y_t$  = Amount of funding raised for project t (%)



$$\text{Log } Y_t = \alpha + \beta_1 * \text{Firm age} + \beta_2 * \text{Team member} + \beta_3 * \text{social media} + \beta_4 * \text{Controls} + \varepsilon_t$$

This results of the estimation for this model are reported as following:

Dependent Variable: Percentage of amount of funding raised (natural log transformation)

Table 11 Project characteristic regression results (Dependent Variable: Amount of funding raised)

	Unstandardized Coefficients		Standardized Coefficients	t-test	P-value	95.0% Confidence Interval for Beta		Sig.
	Beta	Std. Error	Beta			Lower Bound	Upper Bound	
Constant	4.773	0.059		81.272	0.000	4.657	4.888	***
Age (in years)	0.016	0.005	0.143	3.447	0.001	0.007	0.026	***
Team Member	0.015	0.007	0.096	2.261	0.024	0.002	0.029	**
Social media	0.008	0.011	0.037	0.748	0.455	-0.013	0.029	
EIS incentives (control)	0.010	0.043	0.009	0.229	0.819	-0.074	0.094	
London location (control)	-0.004	0.026	-0.007	-0.165	0.869	-0.056	0.047	
Video set (control)	-0.033	0.042	-0.034	-0.792	0.428	-0.116	0.049	
Year (control)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Industry (control)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
R Square			0.068	Durbin-Watson				2.033
Adjusted R Square			0.056	Number of Obs				607.000
F-test			5.494	Prob > F				0.000 <sup>b</sup>
Akaike crit. (AIC)			-1380.344	Bayesian crit. (BIC)				-1330.591

\*, \*\*, \*\*\* indicate significance at the 10%, 5%, and 1% levels, respectively.

In table 11, the amount of funding raised for each project is used in this model, which shows that the variables of age (p = 0.001) and team member (p = 0.024), excluding

fundraising characteristic (amount of target, equity offered and the threshold value of voting right), are individually significant, but the variable of social media channel, EIS incentives (Enterprise Investment Scheme), Video and London location is non-significant. Furthermore, the variables are jointly significant ( $F=5.494$ ,  $p = 0.000$ ).

Dependent Variable of the number of investors:

$Y_t$  = The number of investors in project t

$$\text{Log } Y_t = \alpha + \beta_1 * \text{Firm age} + \beta_2 * \text{Team member} + \beta_3 * \text{social media} + \beta_4 * \text{Controls} + \varepsilon_t$$

This results of the estimation for this model are reported as following:

Dependent Variable: The number of investors in project t (natural log transformation)

Table 12 Project characteristic regression results (Dependent Variable: the number of investors)

	Unstandardized Coefficients		Standardized Coefficients	t-test	P-value	95.0% Confidence Interval for Beta		Sig.
	Beta	Std. Error	Beta			Lower Bound	Upper Bound	
Constant	4.389	0.141		31.099	0.000	4.112	4.666	***
Age (in years)	0.070	0.011	0.203	6.113	0.000	0.047	0.092	***
Team Member	0.083	0.016	0.173	5.064	0.000	0.051	0.116	***
Social media	0.123	0.026	0.189	4.754	0.000	0.072	0.173	***
EIS_INCENTIVES (control)	-0.288	0.103	-0.090	-2.799	0.005	-0.490	-0.086	***
London location (control)	0.120	0.063	0.061	1.911	0.056	-0.003	0.244	*
Video set (control)	-0.222	0.101	-0.075	-2.196	0.028	-0.420	-0.023	**

Year (control)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry (control)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R Square			0.401	Durbin-Watson		1.751	
Adjusted R Square			0.393	Number of Obs		607	
F-test			50.066	Prob > F		0.000 <sup>b</sup>	
Akaike crit. (AIC)			-315.905	Bayesian crit. (BIC)		-271.820	

\*, \*\*, \*\*\* indicate significance at the 10%, 5%, and 1% levels, respectively.

In table 12, the number of investors for each project is used in this model, which shows that all the variables, age ( $p = 0.000$ ), Team member ( $p = 0.000$ ) and social media ( $p = 0.000$ ) excluding fundraising characteristic (amount of target, equity offered and the threshold value of voting right), are individually significant. Furthermore, the variables are jointly significant ( $F = 50.066$ ,  $p = 0.000$ )

#### 5.3.1.2 Project Characteristic and Fundraising Characteristic Signals Model:

The second model used to study the determinants of the amount of funding raised and the number of investors by the campaign in the Crowdcube platform, expands upon the first by including the measures of project's fund-raising characteristic. The dataset includes all projects both successful and unsuccessful campaign. The second model was defined as follows:

Dependent Variable of Amount of funding raised:

$Y_t$  = Amount of funding raised for project  $t$  (%)

$Log Y_t = \alpha + \beta_1 * \text{Firm age} + \beta_2 * \text{Number of team member} + \beta_3 * \text{Number of social media channels} + \beta_4 * \text{amount of target funding} + \beta_5 * \text{Amount of equity share offered} + \beta_6 * \text{The threshold value of voting right Dummy} + \beta_4 * \text{Controls} + \epsilon_t$

This results of the estimation for this model are reported as following:

Dependent Variable: Amount of funding raised for project t (% and Natural log transformation)

Table 13 Project characteristic and fundraising characteristic results (Dependent Variable: Amount of funding raised)

	Unstandardized Coefficients		Standardized Coefficients	t-test	P-value	95.0% Confidence Interval for Beta		Sig.
	Beta	Std. Error	Beta			Lower Bound	Upper Bound	
Constant	5.436	0.215		25.294	0.000	5.014	5.858	***
Age (in years)	0.018	0.005	0.159	3.765	0.000	0.009	0.028	***
Team Member	0.021	0.007	0.128	2.855	0.004	0.006	0.035	***
Social media	0.008	0.011	0.036	0.740	0.459	-0.013	0.029	
Target amount	-0.047	0.017	-0.133	-2.751	0.006	-0.081	-0.013	***
Equity offered	-0.099	0.057	-0.068	-1.734	0.084	-0.211	0.013	*
Share with voting right threshold								
Investment with no voting right (Yes = 1; No = 0)	-0.161	0.039	-0.185	-4.116	0.000	-0.239	-0.084	***
Investment between £0 and £3000 (Yes = 1; No = 0)	-0.104	0.039	-0.131	-2.665	0.008	-0.180	-0.027	***
Investment between £3000 and £5000 (Yes = 1; No = 0)	-0.071	0.057	-0.053	-1.254	0.211	-0.183	0.040	
Investment between £5000 and £10000 (Yes = 1; No = 0)	-0.093	0.035	-0.125	-2.637	0.009	-0.162	-0.024	***
EIS_INCENTIVES (control)	-0.001	0.042	-0.001	-0.029	0.977	-0.085	0.082	
London location (control)	-0.002	0.026	-0.003	-0.072	0.943	-0.053	0.050	
Video set (control)	-0.025	0.041	-0.025	-0.598	0.550	-0.106	0.057	
Year (control)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Industry (control)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
R Square			0.108	Durbin-Watson				2.063
Adjusted R Square			0.087	Number of Obs				607

F-test	5.128	Prob > F	0.000 <sup>b</sup>
Akaike crit. (AIC)	-1402.768	Bayesian crit. (BIC)	-1349.866

\*, \*\*, \*\*\* indicate significance at the 10%, 5%, and 1% levels, respectively.

The results from Table 13 show that the majority of variables are significant but only the threshold value of voting right between £3000 and £5000 and control variables are not with a significant impact on the amount of funding raised. The variables are also jointly significant ( $F = 5.128$ ,  $p = 0.000$ ). Utilisation of the BIC and AIC values in comparison with the first model is possible due to them having exactly the same number of observations, a necessity when comparing models using these tests. In both measures the second model (AIC: -1380.344 and BIC: -1330.591) has lower values than the first model (AIC: -1402.768 and BIC: -1349.866) suggesting the complete model is a better fit for the data (Liddle, 2007). Moreover, using the Durbin Watson Test as a measure of autocorrelation, autocorrelation was below to 1 and above to 3 to definite cause for concern (Field, 2013), but the statistic of model (DW = 2.063) shows that is between 1 to 3 which is not indicate autocorrelation in the model. Additionally, the VIF test in table 14 (mean Tolerance: 0.788 and VIF: 1.306) shows that multicollinearity was below the boundary level of 5 utilised to indicate problematic level of multicollinearity (James et al., 2013).

Table 14 VIF test for OLS model of Project characteristic

	Collinearity Statistics	
	Tolerance (1/VIF)	VIF
Constant		
Age (in years)	0.848	1.179
Team Member	0.754	1.327
Social media	0.626	1.597
Target amount	0.648	1.542

Equity offered	0.986	1.014
Share with voting right threshold		
Investment with no voting right (Yes = 1; No = 0)	0.748	1.336
Investment between £0 and £3000 (Yes = 1; No = 0)	0.628	1.593
Investment between £3000 and £5000 (Yes = 1; No = 0)	0.847	1.180
Investment between £5000 and £10000 (Yes = 1; No = 0)	0.672	1.488
EIS_INCENTIVES (control)	0.939	1.065
London location (control)	0.949	1.054
Video set (control)	0.858	1.165
Mean	0.788	1.306

Finally, the regression residuals appear to be normally distributed based upon the spread of the residuals as followed in Figure 18 below:

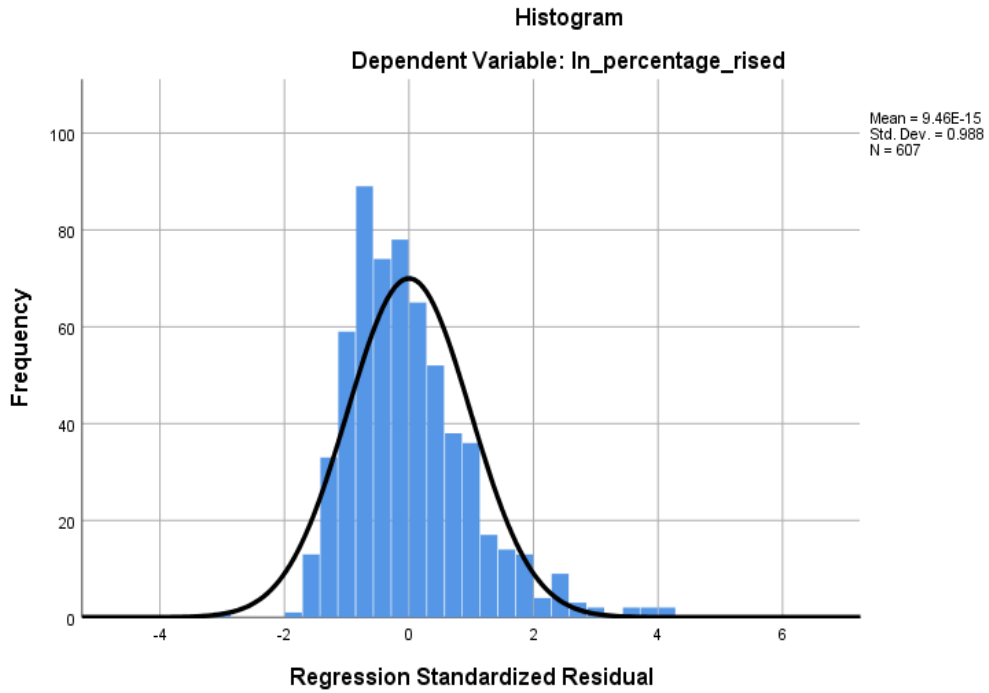


Figure 18 Residuals of OLS model for Project characteristic and fundraising characteristic (Dependent Variable: Amount of funding raised)

Dependent Variable of the number of investors:

$Y_t$  = The number of investors in project t

$\text{Log } Y_t = \alpha + \beta_1 * \text{Firm age} + \beta_2 * \text{Number of team member} + \beta_3 * \text{Number of social media channels} + \beta_4 * \text{amount of target funding} + \beta_5 * \text{Amount of equity share offered} + \beta_6 * \text{The threshold value of voting right Dummy} + \beta_4 * \text{Controls} + \epsilon_t$

This results of the estimation for this model are reported as following:

Dependent Variable: The number of investors in project t (Natural log transformation)

Table 15 Project characteristic and fundraising characteristic results (Dependent Variable: the number of investors)

	Unstandardized Coefficients		Standardized Coefficients	t-test	P-value	95.0% Confidence Interval for Beta		Sig.
	Beta	Std. Error	Beta			Lower Bound	Upper Bound	
Constant	-1.425	0.449		-3.175	0.002	-2.307	-0.544	***
Age (in years)	0.032	0.010	0.093	3.158	0.002	0.012	0.052	***
Team Member	0.010	0.015	0.020	0.642	0.521	-0.020	0.039	
Social media	0.111	0.022	0.171	4.993	0.000	0.067	0.154	***
Target amount	0.509	0.036	0.479	14.258	0.000	0.439	0.580	***
Equity offered	-0.162	0.119	-0.037	-1.361	0.174	-0.397	0.072	
Share with voting right threshold								
Investment with no voting right (Yes = 1; No = 0)	-0.164	0.082	-0.063	-1.999	0.046	-0.325	-0.003	**
Investment between £0 and £3000 (Yes = 1; No = 0)	-0.008	0.081	-0.003	-0.096	0.924	-0.168	0.152	
Investment between £3000 and £5000 (Yes = 1; No = 0)	0.004	0.119	0.001	0.038	0.970	-0.229	0.238	
Investment between £5000 and £10000 (Yes = 1; No = 0)	-0.054	0.074	-0.024	-0.730	0.466	-0.199	0.091	
EIS_INCENTIVES (control)	-0.175	0.089	-0.055	-1.972	0.049	-0.349	-0.001	**
London location (control)	-0.011	0.055	-0.006	-0.208	0.835	-0.119	0.096	
Video set (control)	-0.228	0.086	-0.077	-2.642	0.008	-0.398	-0.059	***
Year (control)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Industry (control)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
R Square			0.567	Durbin-Watson				1.878



Adjusted R Square	0.556	Number of Obs	607.000
F-test	55.284	Prob > F	0.000b
Akaike crit. (AIC)	-508.225	Bayesian crit. (BIC)	-455.323

\*, \*\*, \*\*\* indicate significance at the 10%, 5%, and 1% levels, respectively.

The results from Table 15 show that the variables of age, social media and target amount and investment without voting right are significant with other the threshold value of voting right and team member variables not having a significant impact on the number of investors. The variables are also jointly significant ( $F = 55.284$ ,  $p = 0.000$ ). Utilisation of the BIC and AIC values in comparison with the first model is possible due to them having exactly the same number of observations, a necessity when comparing models using these tests. In both measures the second model (AIC: -508.225 and BIC: -455.323) has lower values than the first model (AIC: -315.905 and BIC: -271.820) suggesting the complete model is a better fit for the data (Liddle, 2007). Moreover, using the Durbin Watson Test as a measure of autocorrelation, autocorrelation was below to 1 and above to 3 to definite cause for concern (Field, 2013), but the statistic of model (DW=1.878) shows that is between 1 to 3 which is not indicate autocorrelation in the model. Additionally, the VIF test in table 16 (Mean of Tolerance: 0.788 and Mean of VIF: 1.306) shows that multicollinearity was below the boundary level of 5, which is not to indicate problematic level of multicollinearity (James et al., 2013).

Table 16 VIF test for OLS model of Project characteristic and fundraising characteristic

	Collinearity Statistics	
	Tolerance (1/VIF)	VIF
Constant		
Age (in years)	0.848	1.179
Team Member	0.754	1.327
Social media	0.626	1.597

Target amount	0.648	1.542
Equity offered	0.986	1.014
Share with voting right threshold		
Investment with no voting right (Yes = 1; No = 0)	0.748	1.336
Investment between £0 and £3000 (Yes = 1; No = 0)	0.628	1.593
Investment between £3000 and £5000 (Yes = 1; No = 0)	0.847	1.180
Investment between £5000 and £10000 (Yes = 1; No = 0)	0.672	1.488
EIS_INCENTIVES (control)	0.939	1.065
London location (control)	0.949	1.054
Video set (control)	0.858	1.165
Mean	0.788	1.306

Finally, the regression residuals appear to be normally distributed based upon the spread of the residuals as followed in Figure 18 below:

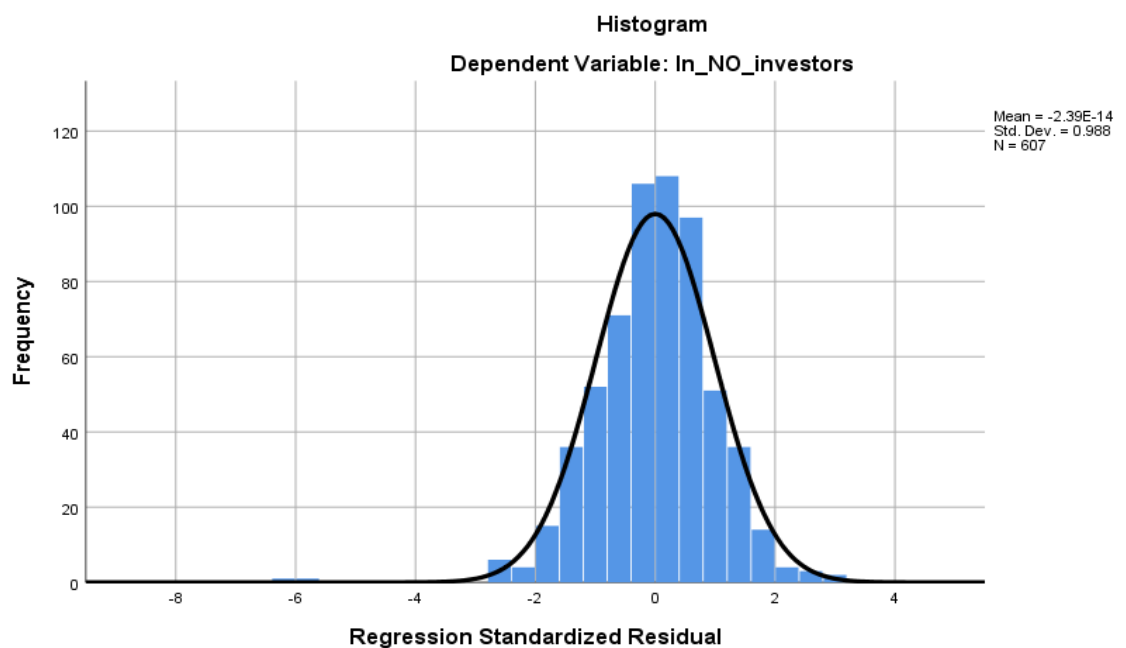


Figure 19 Residuals of OLS model for Project characteristic and fundraising characteristic (Dependent Variable: the number of investors)

	Amount of funding raised			Amount of funding raised			The number of investors (Natural log transformation)			The number of investors (Natural log transformation)		
	Coefficients	t-test	Sig.	Coefficients	t-test	Sig.	Coefficients	t-test	Sig.	Coefficients	t-test	Sig.
Constant	4.773	81.272	0.000	5.436	25.294	0.000	4.389	31.099	0.000	-1.425	-3.175	0.002
Age (in years)	0.016	3.447	0.001	0.018	3.765	0.000	0.070	6.113	0.000	0.032	3.158	0.002
Team Member	0.015	2.261	0.024	0.021	2.855	0.004	0.083	5.064	0.000	0.010	0.642	0.521
Social media	0.008	0.748	0.455	0.008	0.740	0.459	0.123	4.754	0.000	0.111	4.993	0.000
Target amount				-0.047	-2.751	0.006				0.509	14.258	0.000
Equity offered				-0.099	-1.734	0.084				-0.162	-1.361	0.174
Share with voting right threshold												
Investment with no voting right (Yes = 1; No = 0)				-0.161	-4.116	0.000				-0.164	-1.999	0.046
Investment between £ 0 and £3000 (Yes = 1; No = 0)				-0.104	-2.665	0.008				-0.008	-0.096	0.924
Investment between £3000 and £5000 (Yes = 1; No = 0)				-0.071	-1.254	0.211				0.004	0.038	0.970
Investment between £5000 and £10000 (Yes = 1; No = 0)				-0.093	-2.637	0.009				-0.054	-0.730	0.466
EIS_INCENTIVES (control)	0.010	0.229	0.819	-0.001	-0.029	0.977	-0.288	-2.799	0.005	-0.175	-1.972	0.049
London location (control)	-0.004	-0.165	0.869	-0.002	-0.072	0.943	0.120	1.911	0.056	-0.011	-0.208	0.835
Video set (control)	-0.033	-0.792	0.428	-0.025	-0.598	0.550	-0.222	-2.196	0.028	-0.228	-2.642	0.008
Year (control)	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Industry (control)	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
<b>R Square</b>	0.068			0.108			0.401			0.567		
<b>F-test</b>	5.494			5.128			50.066			55.284		
<b>Prob &gt; F</b>	0.000 <sup>b</sup>			0.000 <sup>b</sup>			0.000 <sup>b</sup>			0.000 <sup>b</sup>		
<b>Akaike crit. (AIC)</b>	-1380.344			-1402.768			-315.905			-508.225		
<b>Bayesian crit. (BIC)</b>	-1330.591			-1349.866			-271.820			-455.323		
<b>Number of Obs.</b>	607			607			607			607		

Table 17 Model summaries

\*, \*\*, \*\*\* indicate significance at the 10%, 5%, and 1% levels, respectively. Table above demonstrates that across all R Squared measures the R squared of the model of the number of investors is higher than the squared of the model of percentage of funding raised. Both the AIC and the BIC measures are lower in model of percentage of funding raised.

#### 5.3.1.3 Interaction Effect Model:

The analysis in the previous sections has helped to identify some significant results by comparing the successful and unsuccessful crowdfunding projects. In this section, the interaction effect analysis will be carried out to see if some of the factors, when considered together, would have interaction effect on the crowdfunding projects.

Table 18 Interaction effect

Interaction	Model 1			Model 2			Model 3			Model 4			Model 5		
	Standardized Coefficients Beta	t	Sig.	Standardized Coefficients Beta	t	Sig.	Standardized Coefficients Beta	t	Sig.	Standardized Coefficients Beta	t	Sig.	Standardized Coefficients Beta	t	Sig.
Constant	5.031	100.569	0.000	5.031	154.611	0.000	4.942	94.289	0.000	5.053	100.624	0.000	5.034	101.184	0.000
Age (in years)	0.146	3.507	0.000	0.158	3.804	0.000	0.169	4.014	0.000	0.158	3.809	0.000	0.158	3.801	0.000
Team Member	0.132	2.967	0.003	0.137	3.068	0.002	0.129	2.906	0.004	0.131	2.939	0.003	0.127	2.854	0.004
Social media	0.050	0.998	0.319	0.027	0.557	0.578	0.028	0.572	0.568	0.021	0.435	0.664	0.037	0.765	0.444
Target amount	-0.137	-2.873	0.004	-0.134	-2.815	0.005	-0.138	-2.892	0.004	-0.129	-2.707	0.007	-0.136	-2.861	0.004
Equity offered	-0.068	-1.753	0.080	-0.067	-1.716	0.087	-0.062	-1.583	0.114	0.037	0.484	0.629	-0.109	-2.427	0.016
Share with voting right threshold	-0.177	-3.957	0.000	-0.176	-3.923	0.000	-0.074	-1.613	0.107	-0.187	-4.175	0.000	-0.183	-4.093	0.000
Investment with no voting right (Yes = 1; No = 0)	-0.121	-2.500	0.013	-0.126	-2.612	0.009	-0.012	-0.248	0.805	-0.131	-2.705	0.007	-0.124	-2.560	0.011
Investment between £0 and £3000 (Yes = 1; No = 0)	-0.053	-1.252	0.211	-0.050	-1.193	0.233	0.014	0.321	0.748	-0.059	-1.397	0.163	-0.054	-1.276	0.202
Investment between £3000 and £5000 (Yes = 1; No = 0)	-0.129	-2.723	0.007	-0.120	-2.529	0.012	0.130	2.655	0.008	-0.129	-2.711	0.007	-0.129	-2.726	0.007
EIS incentives (control)	0.001	0.013	0.990	-0.001	-0.016	0.987	-0.001	-0.021	0.984	-0.007	-0.179	0.858	0.001	0.021	0.984
London location (control)	-.001	-.029	.977	-.003	-.077	.939	.005	.124	.901	-.004	-.097	.923	.085	1.876	.061
Video set (control)	-0.031	-0.743	0.458	-0.032	-0.784	0.433	-0.036	-0.872	0.384	-0.031	-0.760	0.448	-0.026	-0.617	0.537
Year (control)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry (control)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Interaction_Age_Social	0.068	1.664	0.097												
Interaction_Vote_Age				0.082	2.071	0.039									
Interaction_Target_Age							0.072	1.810	0.071						
Interaction_Equity_Social										0.121	1.586	0.113			
Interaction_Equity_Vote													0.085	1.877	0.061
R Square			0.111			0.114			0.112			0.111			0.112
Adjusted R Square			0.09			0.093			0.091			0.090			0.091
F-test			5.297			5.419			5.338			5.277			5.357
Prob > F			0.000 <sup>b</sup>			0.000 <sup>b</sup>			0.000 <sup>b</sup>			.000 <sup>b</sup>			.000 <sup>b</sup>
Durbin-Watson			1.755			1.762			1.767			1.756			1.766
Number of Obs			606			606			606			606			606

\*, \*\*, \*\*\* indicate significance at the 10%, 5%, and 1% levels, respectively.

$Y_t$  = Amount of funding raised for project t (%)

$\text{Log } Y_t = \alpha + \beta_1 * \text{Firm age} + \beta_2 * \text{Number of team member} + \beta_3 * \text{Number of social media channels} + \beta_4 * \text{amount of target funding} + \beta_5 * \text{Amount of equity share offered} + \beta_6 * \text{The threshold value of voting right Dummy} + \beta_7 * \text{interaction variables} + \beta_8 * \text{Controls} + \varepsilon_t$

Table 18 shows the results of interaction effect models. The author tested how the interaction between each the characteristics of projects (firm age, social media channels and Team) and each the characteristics of its fundraising (fund target, equity offered and the threshold value of voting right) contributed to the success of project's crowdfunding campaign. As a result of the data analysis, 5 significant interaction was identified.

#### **Firm age and social media**

Model 1 considers the interaction variables of firm age and social media. I find out that, for the effect of social media, there were no significant effects on project characteristic and fundraising characteristic signals model in term of amount of fundraising. However, a significant interaction effect between firm age and social media. The estimated coefficients of the interaction for firm age and social media show that while the effect of social media signal on project characteristic and fundraising characteristic signals model is positive but no significant (Coefficients=0.008,  $P > 0.1$ ), when the interaction for firm age and social media signals are present their joint influence (Coefficients=0.068,  $P < 0.1$ ) increase the amount of project fundraised, particularly that is significant on model 1, in other words the interaction effect is positive. The variables are jointly significant in interaction model 1 ( $F = 5.297$ ,  $p < 0.01$ ). Moreover, using the Durbin Watson Test as a measure of autocorrelation, autocorrelation was below to 1 and above to 3 to definite cause for concern (Field, 2013), but the statistic of interaction model 1 (DW=1.755) shows that is between 1 to 3 which is not indicate autocorrelation in the model.

### **Firm age and threshold of voting right**

Model 2 considers the interaction effect of firm age and investment threshold of voting rights. It was found that there is a significant interaction effect between firm age and investment threshold of voting rights. The estimated coefficients of the interaction for firm age and investment threshold of voting rights show the interaction for firm age and investment threshold of voting rights are present their joint influence (Coefficients= 0.082,  $P < 0.05$ ) increase the amount of project fundraised, in other words the interaction effect is positive. This result highlights that higher firm age mitigates the negative effect of investment threshold of voting right or without offering any voting rights. The variables are jointly significant in interaction model 2 ( $F = 5.419$ ,  $p < 0.01$ ). Moreover, using the Durbin Watson Test as a measure of autocorrelation, autocorrelation was below to 1 and above to 3 to definite cause for concern (Field, 2013), but the statistic of interaction model 2 ( $DW = 1.762$ ) shows that is between 1 to 3 which is not indicate autocorrelation in the model.

### **Firm age and target amount**

Model 3 considers the interaction variables of firm age and target amount. It is found that there is a significant interaction effect between firm age and target amount. The estimated coefficients of the interaction for firm age and target amount show the interaction for firm age and target amount are present their joint influence (Coefficients= 0.082,  $P < 0.05$ ) increase the amount of project fundraised, in other words the interaction effect is positive. Thus, the positive interaction effect between firm age and target amount mitigates the negative effect of those projects setting high fundraising target. The greater the age of the firms, it is less likely that projects will be affected by setting higher fundraising targets. The variables are jointly significant in interaction model 3 ( $F = 5.338$ ,  $p < 0.01$ ). Moreover, using the Durbin Watson Test as a measure of autocorrelation, autocorrelation was below to 1 and above to 3 to definite cause for concern (Field, 2013), but the statistic of interaction model 3 ( $DW = 1.767$ ) shows that is between 1 to 3 which does not indicate autocorrelation in the model.

### **Equity offered and social media channels**

Model 4 considers the interaction variables of equity offered and social media channels. I also found out that the interaction effect of equity offered and social media channels (Coefficients=0.121,  $p=0.113$ ), is remarkably close to significant at the 10% level. Even there were no significant effects of social media channels on project characteristic and fundraising characteristic signals model, but a nearly significant interaction effect between equity offered and social media. The estimated coefficients of the interaction for equity offered and social media show the interaction for equity offered and social media signals are present their joint influence (Coefficients=0.121,  $P=0.113$ ) increase the amount of project fundraised. It means that the interaction effect is positive. Thus, the positive interaction effect between equity offered and social media reduce the negative effect of offering equity. The more social media channels, it is less likely that projects will be affected by offering equity. The variables are jointly significant in interaction model 4 ( $F = 5.277$ ,  $p < 0.01$ ). Moreover, using the Durbin Watson Test as a measure of autocorrelation, autocorrelation was below to 1 and above to 3 to definite cause for concern (Field, 2013), but the statistic of interaction model 4 ( $DW= 1.756$ ) shows that is between 1 to 3 which does not indicate autocorrelation in the model.

### **Equity offered and investment threshold of voting right**

Model 5 considers the interaction effect of equity offered and investment threshold of voting right. I found out that there is a significant interaction effect between equity offered and investment threshold of voting right. The estimated coefficients of the interaction for equity offered and investment threshold of voting right show the interaction for equity offered and investment threshold of voting right are present their joint influence (Coefficients= 0.085,  $P<0.1$ ) increase the amount of project fundraised, in other words the interaction effect is positive. Thus, the positive interaction effect between equity offered and investment threshold of voting right mitigates the negative effect of equity offered. As the projects set higher investment threshold value of voting right, it is less likely that projects will be affected by the effect of offering equity and the probability of success in crowdfunding campaign increases. The variables are jointly significant in interaction model 5 ( $F = 5.357$ ,  $p$



<0.01). Moreover, using the Durbin Watson Test as a measure of autocorrelation , autocorrelation was below to 1 and above to 3 to definite cause for concern (Field, 2013), but the statistic of interaction model 5 (DW= 1.766 ) shows that is between 1 to 3 which is not indicate autocorrelation in the model.

#### 5.3.1.4 Robustness Test

To ensure the reliability of my results, I conduct a series of robustness tests. First, I replaced my dependent variable with alternative measures of project founders' success in crowdfunding. As I mentioned in Chapter 4.4.3, I split up the percentage of funding raised by the eight groups in below 100%, below 110%, below 120%, below 130% and below 150%, below 160%, below 200% and over 200% respectively. The 8 groups are as dependent variables in an ordinal logistic model. I also replace the independent variable of age(year) to age(mouth). Moreover, the dataset includes all projects both successful and unsuccessful campaign as well. The estimates of this models (reported in Table 19) indicate that the coefficients of the independent variables are in line with the previous OLS regression model reported in Table 17, despite that the significance of some coefficients is reduced. A decreasing level of fundraising characteristics such as the amount of target set and the amount of equity offered and an increased level of project characteristics such as age, the number of social media channels and the amount of team members are associated to the increase of campaign funding. In particular, the negative effect of target amount is very significant when using the percentage of funding raised is as the dependent variable (see table 17), while the negative effect of target amount is less significant when the dependent variable is the ordinal variables (see table 19). The positive effect of social media is also non-significant in model of Ordinal logistic regression, but the p-value decline to 0.203 (see table 19). I also report a single odds ratio of the independent variables alongside the robust standard errors and p-values. The odds ratio is used to indicate the effect each variable has on predicting if the campaign will be in the higher level of category. It means that increasing one unit of the independent variable will have the higher probability of campaign touching the over 200% percentage category, compared to cumulative other lower level of categories.

The higher amount of age, team member and social media channels in project characteristics have a positive effect on the increase of fund raised. Entering into the crowdfunding campaign one additional month later will increase the probability of the project to reach the highest category of over 200% fund raised by 1.006 times ( $p < 0.01$ ), for one additional unit on team member by 1.128 times ( $p < 0.01$ ) and for one additional unit on social media channels by 1.079 times. However, the negative effect of equity offered, and target amount is not significant. The negative effect of target amount is significant which is the increase of one percentage in target amount associated with lower odds rate of 0.806 times being in the highest category of over 200%. Furthermore, projects with higher investment threshold to assess voting right have a positive impact on reaching in the highest category of over 200% fund raised. Shares without voting rights is by 0.395 times ( $p < 0.01$ ) to reach the highest category of over 200% fund raised, investment between £0 and £3000 with an odds ratio of 0.633 times ( $p < 0.05$ ) and investment between £5000 and £10000 with an odds ratio of 0.659 times ( $p < 0.05$ ). Table 19 presents the results of the ordinal logistic regression on the dependent variable of the amount of fund raised.

Table 19 Ordinal logistic regression

		Estimate	OR rate	Std. Error	Wald	df	P-value	Sig.	95% Confidence Interval	
									Lower	Upper
									Bound	Bound
Category	[Fund-raising = .00]	-4.570		1.246	13.462	1	0.000	***	-7.011	-2.129
	[Fund-raising = 1.00]	-2.645		1.236	4.578	1	0.032	*	-5.067	-0.222
	[Fund-raising = 2.00]	-1.743		1.234	1.997	1	0.158		-4.161	0.674
	[Fund-raising = 3.00]	-1.130		1.233	0.840	1	0.359		-3.546	1.286
	[Fund-raising = 4.00]	-0.521		1.233	0.179	1	0.673		-2.937	1.895
	[Fund-raising = 5.00]	-0.051		1.234	0.002	1	0.967		-2.469	2.368
	[Fund-raising = 6.00]	1.233		1.246	0.979	1	0.322		-1.209	3.674
Independent	Age_m	0.006	1.006	0.002	7.992	1	0.005	***	0.002	0.011
	Team size	0.121	1.128	0.041	8.639	1	0.003	***	-0.042	0.195
	Social media	0.077	1.079	0.060	1.621	1	0.203		0.036	0.238
	Ln Target amount	-0.215	0.806	0.098	4.880	1	0.027	**	-0.407	-0.024
	Equity proposed	-0.309	0.734	0.323	0.916	1	0.339		-0.861	0.398
	Investment with no voting right (Yes = 1; No = 0)	-0.928	0.395	0.226	16.794	1	0.000	***	-1.372	-0.484
	Investment between £0 and £3000 (Yes = 1; No = 0)	-0.457	0.633	0.221	4.267	1	0.039	*	-0.891	-0.023
Investment between £3000 and £5000 (Yes = 1; No = 0)	-0.251	0.777	0.322	0.609	1	0.435		-0.883	0.380	

Investment between £5000 and £10000 (Yes = 1; No = 0)	-0.417	0.659	0.200	4.335	1	0.037	*	-0.809	-0.024
Investment needs to over £10000 (Yes = 1; No = 0)	0a				0				
[London Location=.00]	0.125	1.132	0.149	0.700	1	0.403		-0.167	0.417
[London Location=1.00]	0a				0				
[Video set=1]	0.067	1.069	0.235	0.081	1	0.776		-0.393	0.527
[Video set=2]	0a				0				
[EIS Incentives=.00]	-0.055	0.946	0.241	0.053	1	0.818		-0.527	0.416
[EIS Incentives=1.00]	0a				0				
[Industry control]	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
[Year control]	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Pseudo r-squared			0.079	Number of obs			607		
Chi-square			50.095	Prob > chi2			0		
Akaike crit. (AIC)			2211.298	Bayesian crit. (BIC)			2149.579		
Test of Parallel Lines	Chi-square		97.589	Prob > chi2			0.147		

\*, \*\*, \*\*\* indicate significance at the 10%, 5%, and 1% levels, respectively.

Secondly, I measured OLS regression model by using different period or the year of the EBC campaign, 2015-2017(table 20), 2015-2018(table 21) and 2016-2019(table 22) respectively. I did so to address the concern that the Crowdcube crowdfunding platform changed its structure of website between 2015 to 2016 including more details of projects, if there is any impact on the success of EBC for the start-ups. Moreover, using different period of years in robustness checks can assist to finding out the any changes in these years rather than directly including years dummies in main models. The results indicate that the coefficients of the independent variables are in line with the previous OLS regression model reported in table 17, despite that the significance of some coefficients is reduced. The fundraising characteristics such as the amount of target set and the amount of equity offered also have a negative impact on the likelihood of crowdfunding success and the project characteristics such as age, the number of social media channels and the amount of team members also have a positive impact on the success of campaign funding. From the results it can be suggested that the above variables can contribute to increase the probability of their crowdfunding campaign to reach higher the amount of funding raised. Thus, associated the results of ordinal logistic regression together with the results of univariate analysis and OLS regression, the findings strengthen the assumptions made of the variables relative to the project and fundraising characteristics as well as the success of crowdfunding campaign.

Table 20 OLS regression in 2015-2017

2015-2017	Amount of funding raised (Natural log transformation)				The number of investors (Natural log transformation)			
	Coefficients	t-test	p-value	Sig.	Coefficients	t-test	p-value	Sig.
Constant	5.436	16.668	0.000	***	-0.696	-0.979	0.328	
Age (in years)	0.017	2.581	0.010	***	0.034	2.357	0.019	***
Team Member	0.012	1.281	0.201		0.006	0.279	0.780	
Social media	0.007	0.536	0.593		0.091	2.980	0.003	***
Target amount	-0.047	-1.753	0.081	**	0.452	7.753	0.000	***
Equity offered	-0.098	-1.804	0.072	**	-0.100	-0.842	0.401	
Share with voting right threshold								
Investment with no voting right (Yes = 1; No = 0)	-0.107	-1.830	0.068	**	0.024	0.189	0.850	
Investment between £0 and £3000 (Yes = 1; No = 0)	-0.048	-1.024	0.307		0.098	0.958	0.339	
Investment between ££3000 and £5000 (Yes = 1; No = 0)	-0.035	-0.559	0.577		0.002	0.018	0.986	
Investment between £5000 and £10000 (Yes = 1; No = 0)	0.089	1.786	0.075	**	0.152	1.403	0.162	

EIS_INCENTIVES (control)	-0.027	-0.478	0.633	-0.121	-0.965	0.336
London location (control)	0.031	0.896	0.371	0.030	0.398	0.691
Video set (control)	-0.032	-0.512	0.609	-0.164	-1.206	0.229
Industry (control)	Yes	Yes	Yes	Yes	Yes	Yes
R Square	0.095			0.476		
F-test	2.007			17.365		
Prob > F	.018 <sup>b</sup>			.000 <sup>b</sup>		
Akaike crit. (AIC)	-711.349			-271.931		
Bayesian crit. (BIC)	-1515.123			-569.284		
Number of Obs	282			282		

\*, \*\*, \*\*\* indicate significance at the 10%, 5%, and 1% levels, respectively. In table 20, this model' estimates between 2015-2017 indicate that the majority of variables are statistically significant for dependent variable of amount of funding raised, with the level of team member and social media failing to have a significant effect on the amount of funding raised. For dependent variable of the number of investors, variables of age social media and target amount are statistically significant. The F test in both models also show that the variables are jointly significant. However, it is worth noting that the AIC and BIC value for this model is slightly higher than the main model. In particular, the positive effect of team members is significance when using whole samples from 2011 to 2019 to run regression on the percentage of funding raised is considered as dependent variable (see table 17), while the positive effect of team members is not significant when using the samples from 2015 to 2017(see table 20). Moreover, the voting right investment between £0 and £3000 is also not significant. There is no significant on the investment on voting right in model using the number of investors as dependent variables.

Table 21 OLS regression in 2015-2018

2015-2018	Amount of funding raised (Natural log transformation)				The number of investors (Natural log transformation)			
	Coefficients	t-test	p-value	Sig.	Coefficients	t-test	p-value	Sig.
Constant	5.375	19.027	0.000	***	-1.426	-2.403	0.017	***
Age (in years)	0.018	3.074	0.002	***	0.022	1.800	0.073	**

Team Member	0.021	2.511	0.012	***	0.006	0.354	0.723	
Social media	0.009	0.707	0.480		0.143	5.514	0.000	***
Target amount	-0.045	-1.924	0.055	**	0.519	10.674	0.000	***
Equity offered	-0.079	-1.404	0.161		-0.105	-0.891	0.374	
Share with voting right threshold								
Investment with no voting right (Yes = 1; No = 0)	-0.115	-2.237	0.026	***	0.069	0.643	0.521	
Investment between £0 and £3000 (Yes = 1; No = 0)	-0.059	-1.363	0.174		0.034	0.375	0.708	
Investment between ££3000 and £5000 (Yes = 1; No = 0)	-0.029	-0.497	0.619		-0.056	-0.455	0.650	
Investment between £5000 and £10000 (Yes = 1; No = 0)	0.066	1.514	0.131		0.032	0.353	0.725	
EIS_INCENTIVES (control)	-0.009	-0.193	0.847		-0.143	-1.432	0.153	
London location (control)	0.011	0.348	0.728		-0.022	-0.336	0.737	
Video set (control)	0.001	0.021	0.983		0.040	0.406	0.685	
Industry (control)	Yes	Yes	Yes		Yes	Yes	Yes	
R Square	0.094				0.454			
F-test	2.842				22.930			
Prob > F	.001 <sup>b</sup>				.000 <sup>b</sup>			



Akaike crit. (AIC)	-905.8938	-355.260
Bayesian crit. (BIC)	-1450.422	-549.521
Number of Obs	371	371

\*, \*\*, \*\*\* indicate significance at the 10%, 5%, and 1% levels, respectively. In table 21, this model estimates between 2015-2018 indicate that variables of age, team member, target amount and investment without voting right are statistically significant for dependent variable of amount of funding raised. For dependent variable of the number of investors, variables of age social media and target amount are statistically significant. The F-test in both models also show that the variables are jointly significant. In 2015-2018, the negative effect of equity offered is not significance whereas the negative effect of equity offered is slightly significant in whole samples. There is only share without voting right is significant from 2015-2018.

Table 22 OLS regression in 2016-2019

2016-2019	Amount of funding raised (Natural log transformation)				The number of investors (Natural log transformation)			
	Coefficients	t-test	p-value	Sig.	Coefficients	t-test	p-value	Sig.
Constant	6.229	18.938	0.000	***	-0.318	-0.494	0.622	
Age (in years)	0.025	3.825	0.000	***	0.036	2.856	0.005	***
Team Member	0.032	3.024	0.003	***	0.020	0.963	0.336	
Social media	-0.023	-0.956	0.340		0.103	2.145	0.033	**
Target amount	-0.098	-3.799	0.000	***	0.453	8.998	0.000	**
Equity offered	-0.051	-0.783	0.434		-0.062	-0.480	0.631	
Share with voting right threshold								
Investment with no voting right (Yes = 1; No = 0)	-0.134	-2.492	0.013	**	0.025	0.239	0.811	
Investment between £0 and £3000 (Yes = 1; No = 0)	-0.219	-3.987	0.000	***	-0.181	-1.688	0.092	
Investment between £3000 and £5000 (Yes = 1; No = 0)	-0.154	-2.187	0.029	**	-0.217	-1.578	0.115	

Investment between £5000 and £10000 (Yes = 1; No = 0)	-0.112	-2.282	0.023	**	-0.113	-1.172	0.242
EIS_INCENTIVES (control)	0.027	0.532	0.595		-0.074	-0.755	0.451
London location (control)	-0.009	-0.260	0.795		-0.017	-0.234	0.815
Video set (control)	0.024	0.528	0.598		-0.021	-0.230	0.818
Industry (control)	Yes	Yes	Yes		Yes	Yes	Yes
R Square	0.132				0.394		
F-test	4.097				17.523		
Prob > F	.000 <sup>b</sup>				.000 <sup>b</sup>		
Akaike crit. (AIC)	-788.02998				-298.296		
Bayesian crit. (BIC)	-1283.3611				-466.689		
Number of Obs	364				364		

\*, \*\*, \*\*\* indicate significance at the 10%, 5%, and 1% levels, respectively. In table 22, this model' estimates between 2016-2019 indicate that the majority of variables are statistically significant for dependent variable of amount of funding raised with only the level of social media and equity offered failing to have a significant effect on the amount of funding raised. For dependent variable of the number of investors, variables of age, social media and target amount are statistically significant. The F-test in both models also show that the variables are jointly significant. The investment with voting right between £3000 and £5000 is significant whereas not significant in whole sample. Moreover, the negative effect of equity offered is also not significance from 2016 to 2019.

## 5.4 Results by Hypothesis and Summary

This chapter considers whether the collected empirical evidence supports the hypotheses developed in Chapter 3 the conceptual framework, aimed at better understanding which characteristics can have a positive influence on the success of campaign. The next chapter discusses the findings of the analysis in more depth and attempts to explain the reasons behind the findings.

*Table 23 Summary of Hypothesis*

<b>Hypothesis</b>	<b>Support or not (Yes / No)</b>
H1: Equity-based crowdfunding project's firm age is positively correlated with the funding they obtained in the Equity-based crowdfunding campaign.	Yes
H2: The number of team member is positively correlated to the amount of fund that obtained from equity-based Crowdfunding campaign.	Yes
H3: The number of social media that a firm is posted is positively related to the amount of equity-based crowdfunding that obtained.	No
H4: The target amount is negatively correlated to the success of the equity-based crowdfunding projects	Yes
H5: The amount of equity offered in the projects is negative correlated to the success rate of equity-based crowdfunding campaign	Yes
H6A: Firm with offering the shares with voting right is positively correlated to the success rate of equity-based crowdfunding campaign	Yes
H6B: The firm's campaign with lower threshold value of shares with voting rights are more likely to succeed in crowdfunding than those with high threshold value of voting right.	No

## 6 DISCUSSIONS

### 6.1 Project Characteristic Hypotheses

The following section discusses the findings of the analysis in more depth and attempts to explain the reasons behind the findings.

#### 6.1.1 Firm Age of Projects in Crowdfunding Campaign

The evidence in chapter 5.3 shows that the *firm age* has a positive and statistically significant impact on both the amount of funding raised ( $p < 0.01$ ) and the number of investors ( $p < 0.01$ ), supporting the key signalling hypothesis in chapter 3.1, H1. These results suggest that companies with longer history tend to raise more funding and attract a greater number of investors. This result supports earlier research (Cumming et al., 2019; Walthoff-Borm, Schvienbacher, et al., 2018). They also utilised the number of firm age in their models, and their result was highly significant. Business age is important for the success of crowdfunding campaigns because Business age may be relative to company performance or company size, such as revenues or assets, the reputation of company and survival of crisis. According to Gibrat's statement, a firm's rate of growth is irrespective of its size at the start of the period, and the likelihood of a particular growth rate within a specified time interval is the same for any organisation in the same field. Moreover, the growth influences of age on business growth are varied (Davidsson et al., 2010) and company performance is expected to increase as both the firm and team members get older and therefore more experienced (Vassilakis, 2008). Daunfeldt, Elert, & Johansson (2014) found that the performance of youthful companies differentiates with other firms in terms of growth, when controlling the parameters of employment, revenue, labour productivity, and value added. The increase of revenue, size and business growth may be favourably related with the increase of age in the young companies (Coad et al., 2018). Coad, Segarra, & Teruel (2013), who indicate that sales-growth autocorrelation was positive for companies, offer some preliminary findings on how growth rate persistence changes with company age. With the increase of a company's business age, a company could finish more projects or transactions to increase its revenue or explore its potential opportunities in new areas to increase

business growth. Moreover, company can gain reputation from its operation and crisis's experience with the increase of age. Much of a team member's or company's perceived image is built up over time via continuing engagement with numerous stakeholders (Brewer & Gardner, 1996). A company's older age might inform a potential investor more about the company's ability to overcome economic downturns. Small businesses, unlike major corporations, react differently when presented with the problems of an economic crisis (Latham, 2009). During these times, members of the company's team learned various and particular skills. The value of these skills and experience could in turn improving the firm's revenue and profitability, as well as raising the likelihood of success in future ventures. Thus, business age of companies is a crucial factor in the success of crowdfunding campaigns.

#### 6.1.2 Team Member of Projects in Crowdfunding Campaign

The evidence provided in chapter 5.3 suggests that the impact of management team members was different in both models; in fact, while management team members within the amount of funding raised had a positive and significant ( $p < 0.01$ ) impact on the probability of a campaign's success. However, increased levels of management team members showed a positive but non-significant impact on the number of investors. The author also discovered that when the amount of team members is above the quantity of 4, there is less additional value to the success of a crowdfunding campaign in comparison to the difference of team members (Figure 13).

Moreover, projects in successful campaigns have a higher number of team members than projects in unsuccessful campaigns before beginning a crowdfunding campaign on Crowdcube. These observations lead to the recommendation that project founders of crowdfunding projects should consider adding more team members when going into a crowdfunding campaign. My result is consistent with results in past crowdfunding research and also recent research on EBC: corporations with higher founding teams are likely to be success in funding activities (De Crescenzo et al., 2020). And, in the research on reward-based crowdfunding, it has been discovered

that having a bigger size of team can be a positive impact on the result of a fundraising campaign (Lagazio & Querci, 2018).

Team members are important for the success of crowdfunding campaigns because Business age may be the source of information to reduce information asymmetries, providing management expertise, social network connections or accessing to other capabilities. The higher number of team members could increase the source of information and reduce information asymmetries. The introduction of founder's education (Davidsson & Honig, 2003), top management team characteristics (Baum & Silverman, 2004; D. H. Hsu, 2007), are used as sources of information by investors. The presence of a strong management team is especially crucial for new businesses since it enhances the company's legitimacy (Cooper et al., 1994). professional investors are more likely to use their capacity to analyse each member of the Crowdfunding team in depth and to appraise the complementarities of its members' human capital (Kaplan & Strömberg, 2004). Investors on EBC platforms may seek to acquire team information (such as the number of employees) as a proxy for the human capital quality of a company. Human capital characteristics have always been seen as a key predictor of the success of new ventures (Florin et al., 2003) as well as the most important selection factor for professional investors such as business angels and venture capitalists (Ralcheva & Roosenboom, 2020). Team members with relevant experience in similar projects can increase the chance of future project success (Ahlers et al., 2015; Hornuf et al., 2018; Lagazio & Querci, 2018; Piva & Rossi-Lamastra, 2018). Team members can also provide management expertise, or access to other capabilities that bolster the competitive advantage of start-ups (Baum & Silverman, 2015), 'reflecting this variable's perception by outside investors as a positive signal of a firm's ability to cope with market uncertainty' (Vismara, 2016). Thus, stronger human capital is associated with excellent outcomes in several elements of start-up companies (Colombo & Grilli, 2010). It can be a reasonable conclusion that the larger sized team member is considered a critical factor for the success of crowdfunding campaigns.

### 6.1.3 Social Media of Projects in Crowdfunding Campaign

Next, I focus, as discussed in the conceptual framework (Chapter 3), on the influence of *social media* in affecting the probability of the individual projects' success of EBC campaign. The results of Table 17 state that hypothesis H3 is not significant supported by the empirical evidence, analysed through the number of social media channel having a positive and significant impact on the number of investors ( $p < 0.01$ ) but is positive and non-significant for the amount of funding raised by projects. Indicating that the higher number of social media channel projects have, the greater number of investors are attracted to invest in project. And a project's social media potential network has a positive impact on the number of investors. It may mean that the larger size of social media channels can attract more amateur investors with small amount investment on its project but does not assist in reaching its funding target. This is especially the case as there are literally no entry barriers to set up new channels in social media, thus having more channels is not perceived as higher value for projects. This result supports some earlier works: there is no relationship between the use of social media networks and the amount of funding collected in different forms of crowdfunding (Belleflamme et al., 2013). There is no difference in the number of social media website links between successful and unsuccessful rewards-based crowdfunding campaigns (Cumming et al., 2020). The number of social media connections of the project founder is not significantly related to the success of the campaign, although it is linked to the number of early contributions in rewards-based crowdfunding (Colombo et al., 2015).

Project's social media potential network has a positive impact on the number of investors because social media platforms can be utilised as a marketing tool by businesses of all sizes and sorts (Hassan et al., 2015) to build up with its reputation by conveying and updating information, building connections with potential stakeholders and ultimately developing its businesses or attracting more investors. Consumers are increasingly and actively using internet technology, which provides opportunities for companies to contact and communicate with more people through websites and social media sites (Hagel & Armstrong, 1996; Jung et al., 2013). Social media allows businesses to interact with customers at the right moment, immediately, and at a lower cost and efficiency than other traditional communication

channels objectives (Group, 2012; Hassan et al., 2015). Companies can use social media sites to monitor what is being said about their brands and connect directly with customers (Reyneke et al., 2011). Moreover, consumers who are loyal to a certain brand also contribute to internet marketing via a digital word-of-mouth marketing approach in social media sites: social networking sites (such as Facebook and LinkedIn), media-sharing sites (such as YouTube and Flickr), and thought-sharing sites (such as Blogs) (Jones et al., 2015). Digital word-of-mouth marketing approach can engage customers and build long-term ties with the company and brand (Van Noort et al., 2012) and pay back to companies' reputation. Investors, in particular, can use word-of-mouth, such as good comments, on any of these social media platforms to evaluate crowdfunding projects (Vismara, 2016). The product's and company's dependability and trustworthiness may be represented in both good and negative remarks, and can serve as a reference for investors' investment decisions (Datta et al., 2019). The more social media channels there are, the higher the exposure of team members' Crowdfunding activities and the likelihood of bridging a relationship with investors.

Moreover, the larger size of social media channels cannot significantly assist to reach its funding target because Investors may need to investigate additional company information, such as the company's innovation and the variety of products or services, when appraising a project's future prospects. If the project's future match with or over the investors' expectations, it will eventually attract them to put more money into project and bet on it. Thus, social media channels could be an imperative marketing tool by projects in crowdfunding campaigns to influence on customer perceptions and decision-making process and may also help the project to generate greater awareness and attract more investors.

## 6.2 Fundraising Characteristic Hypotheses

### 6.2.1 Expectation of Projects in Crowdfunding Campaign

The results of Table 17 state that hypothesis H4 is supported by the empirical evidence in chapter 5.3, analysed through the amount of target in projects having a



negative and significant impact on the amount of funding raised ( $p < 0.01$ ) and increased levels of the amount of target showed a opposite result that is a positive and significant ( $p < 0.01$ ) impact on the number of investors. Moreover, the amount of projects' fund target in unsuccessful campaigns are higher than projects in successful campaigns. It is indicating that the higher amount of funding target projects has, the lower level of amount of funding amount the project raises. My result is consistent with results in previous crowdfunding research. The amount of funding target is negatively related to the final result of the EBC campaigns. In the research on reward-based crowdfunding, it has been discovered that having a higher amount of funding target is negatively associated with the probability of success on a fundraising campaign (Cumming et al., 2020; Mollick, 2014; Zheng et al., 2014). These differing results for different forms of crowdfunding show that smaller targets are preferable in rewards-based campaigns and larger targets in EBC (Belleflamme et al., 2014).

This result may indicate that project founders prefer to set up a higher target amount because of the nature of project founders with higher confidence and expectation on their own projects. Higher levels of entrepreneurial expectation are regarded as a positive factor to increase start-ups' capacity to develop and expand (Bosma & Schutjens, 2009; Davidsson, 2003). However, excessive entrepreneurial expectations have been seen to have a detrimental impact on the overall macroeconomic level of the economy, leading to economic inefficiencies (Cieřlik et al., 2018). They will likely overestimate their capability of fund-raising, which may also result from the existence of blockbuster projects (J. Liu et al., 2015), and create an expectation of unrealistic result of the crowdfunding projects. According to the theory of goal setting, difficult targets have a negative attitude if backers believe they are getting more difficult to achieve (Locke & Latham, 2002). It appears that project founders are unlikely to be able to accurately assess the viability of their project, even if they have prior experience with the platform, which might result in an unattainable fundraising target being established. Moreover, if a project is recognised by investors as a low-quality project, it can be more difficult for this project to reach funding target as more investors are typically required to back a project with a larger financing

target. As a consequence of the increasing number of investors, the project will be subjected to more examination or due diligence, not only as a result of each investor's direct understanding, but also as a result of the investors' collective understanding (Surowiecki, 2005). Projects are hard to endure the extra scrutiny and due diligence, especially for low-quality projects, thus resulting in a higher cost for setting a higher fundraising goal. As a result, the larger financing target may have a detrimental influence on performance while also serving as a strong signal.

### 6.2.2 Equity Offered of Projects in Crowdfunding Campaign

The results of Table 17 state that hypothesis H5 is supported by the empirical evidence in chapter 5.3, analysed through the amount of equity offered having a negative and significant ( $p < 0.01$ ) impact on the amount of funding raised but is non-significant and negative for the number of investors for projects. Indicating that offering higher amount of equity that projects offer, the lower amount of funding raised. My evidence supports the results of previous study on the signalling role of equity as project's quality. Some research findings about the impact of equity offered in EBC campaigns are negative. While there is small difference of the set of dependent and independent variables, some researchers included the price of share and the way of exit involving their variables but share prices are not provided by Crowdcube (Ahlers et al., 2015). The comparison of different crowdfunding platform are included as control variables to examine (Vismara, 2016).

Offering more equity to investors shows a negative signal of company's quality because it may convey a sign of giving up control premium, the higher level of uncertainty and imposing agency problem. The amount of offering equity to investors is perceived as a signal of company's quality in traditional corporate research (Leland & Pyle, 1977). Potential investors interpret that information as commitment of projects' project founders for offering equity to market. Project founders who dispose a large proportion of their company's equity at listing appear to be less attractive for potential investors (Leland & Pyle, 1977). Moreover, in SMEs, Leland & Pyle (1977) stated that project founders' desire to invest in their own projects indicates project excellence. Investors can look at owners' financial

commitments to get information about unknown business value because they know more about their projects than external investors. Furthermore, Shleifer & Vishny (1986) stated that some level of ownership concentration improves firm performance because large block shareholders, who stand to gain a significant portion of the gains from improved firm performance or a takeover, have incentives and resources to monitor management decisions. Thus, offering more equity to investors means that founders give up control premium of future's gains from improved firm performance or a takeover.

In the IPO and venture capital fundraising environments, the amount of stock held by a company's founders is typically regarded a favourable indication to external investors (Busenitz et al., 2005). Project founders that are confident in a venture's future keep as much equity as possible. Those project founders who are less confidence in the firm's ability to create positive cash flows in the future are more likely to raise funds by selling greater percentages of equity to investors. In order to secure investment, project founders must successfully convey the "good" quality of their products or services to investors to reduce the level of uncertainty. Investing indirectly in one's own enterprise and maintaining equity is one method to signal quality. This might show that the venture's worth is proportional to the amount of equity held by the founders, lowering the level of uncertainty (Vismara, 2016).

When majority owners use their voting power to make choices that do not benefit minority shareholders equally, principal-principal disputes develop. For example, a majority shareholder may utilise their voting power to benefit themselves at the detriment of other shareholders (Hart, 1995). Thus, offering more shares lead to more minority shareholders and impose agency problem that are ineffective in terms of improving organisational performance (Young et al., 2008).

Thus, the greater the quality of project has in the crowdfunding, the more likely that the project founder will consider their project to be successful in the future and thus they are able to offer a lower equity. If the project founders in the EBC campaigns lack confidence, then they would be more likely to consider their project to be riskier

or failed in the future, thus offering a higher equity to attract investors. low-quality projects, thus, may need to give greater equity. Offering more equity to investors shows a negative signal of company's quality.

### 6.2.3 The Threshold Value of Voting Right Shares in Projects In Crowdfunding Campaign

The results of the estimations obtained with the main model in chapter 5.3, displayed in Table 17, are opposite with the proposed hypothesis H6B, but are supportive with Hypothesis H6A. Compared with the highest investment voting right threshold, the projects with no voting right share have a larger negative affect on the amount of funding raised (coefficient = -0.161,  $p < 0.01$ ) than the other projects with voting right (the threshold value of Investment between £0 and £3000, coefficient = -0.104,  $P < 0.01$ ; the threshold value of Investment between £3000 and £5000, coefficient = -0.071, not significant,  $p > 0.1$ ; the threshold value of Investment between £5000 and £10000, coefficient = -0.093,  $p < 0.01$ ). It suggests that higher voting right threshold values have a higher probability of raising more funding, which is opposite to Hypothesis H6B. However, the project without offering voting rights have a greatest negative and significant impact on both the amount of funding raised ( $p = 0.000$ ) and the number of investors ( $p < 0.05$ ). It indicates that projects without voting rights have less amount of funding raised and a smaller number of investors, which is supportive with Hypothesis H6A. Thus, it suggests that the higher threshold value of shares with voting rights a project has, the higher amount of funding raised and the higher the number of investors.

Moreover, in univariate analysis, there are u-shape in mean comparison in term of the amount of fund raised, the number of investors. It means that projects of shares without voting rights and of shares with highest level voting rights have raised higher level of funds and attract more investors' interest. Projects' characteristics and its fundraising characteristics also have a u-shape relationship in mean comparison. The projects with the highest number of firm age, team member and social media channels distribute in the group of shares without voting rights and shares with the highest threshold value of voting rights.

### ***Voting right or not voting right***

Projects offering shares attached with voting rights can contribute to the success of its crowdfunding campaign. My results in crowdfunding campaign are consistent with the below corporate finance studies. The research in context of corporate finance finds that the valuation of firms with a more severe separation between ownership and controls is lower than those with higher concentration between ownership and controls (Faccio & Lang, 2002; La Porta et al., 1999, 2006). Moreover, In the time of IPO, separation of ownership from control can contract the benefits of investors and boost agency costs (Bebchuk & Kastiel, 2017; Chemmanur & Jiao, 2012). It is also in line with recent research in EBC, a high separation between ownership and control negatively affects the probability of success of the offering and the likelihood of long-run success (Cumming et al., 2019).

Shares with voting rights can allow investors with a right to get involved in important business decisions such as follow-on rounds of financing, director election, recapitalisation, sale of significant assets, or managerial compensation increases. Shares with voting rights aligning interest of both project founders and investors can bring the benefit of efficiency and effectivity of corporate operation as well as its valuation. Moreover, as a result of differentiated voting power, shareholders who do not have a comparable economic stake in a corporation are more likely to “tunnel” away a disproportionate portion of firm value. Investors, like stock exchange investors, may be hesitant to invest in inferior voting shares due to the danger of expropriation and the lower valuation. Moreover, Cross-country studies (Dyck & Zingales, 2004), find that control has a significant value, perhaps as much as 50% of the company's value. Thus, projects offered share attached with voting rights are popular and more successful than those without voting rights.

### ***The investment threshold value of voting right***

Apart from above research, I have investigated deeper to separate different groups of threshold value voting rights. The result shows that projects with the higher threshold value of investment in voting rights have more likelihood of success in

crowdfunding campaigns, compared to those lower threshold value of investment in voting rights. And also, projects with the higher threshold value of investment in voting rights also can attract more investors' interest than others lower threshold value projects. However, the shares attached with higher threshold value for voting rights may be difficult to reach for amateur investors. Moreover, in univariate analysis, there are u-shape in mean comparison in term of the amount of fund raised, the number of investors, project characteristics (age, team number and social media channels' number). It may indicate that the larger-scale projects prefer to set higher investment threshold value or do not provide any voting rights.

It may be because of a positive signal that larger-scale projects' project founders have a confidence on the future of project and be willing to retain more voting rights, to reduce the probability of takeover or attack by potential rivals for the protection of their company. On a single class share structure, the company has a greater likelihood of losing control to potential rivals if the company operates the projects in the period of high uncertainty. Especially, amateur investors may vote to support the view of the rival if they believe the project is not progressing well (Chemmanur & Jiao, 2012). The project founders can defeat any rival if they have enough votes in a dual class share structure. Thus, Project founders of EBC who set up high investment threshold value of voting rights in their projects may aim to maintain their controls on company and reduce the probability of takeover or attack by potential rivals.

Moreover, the vote is valuable. The price of vote is higher in majority-controlled companies than others (Hauser & Lauterbach, 2004). If project founders are optimistic about the project's future, they may set up high investment threshold value of voting rights in their projects and retain the most valuable asset for themselves rather than sell it to amateur investors and hold the majority of the shares with superior voting power. Thus, it could send a signal full confidence in a company's future prospects and attract more investors than the shares without any voting rights.

#### 6.2.4 Interrelationship Between Factors

While the first stage of data analysis helps to identify key factors that are associated with the success of EBC campaigns, in-depth analysis helps to reveal complex interrelationship between factors. The results of the interaction effect of firm age and social media channels indicate that as the business becomes older and has more social media channels, the amount of funding increases. It means that even while social media channels do not appear to have direct impact on success of crowdfunding projects and have only a significantly positive impact on the number of investors, the positive effect of firm age is further enhanced after the utilisation of social media channels in EBC to an increased chance of fundraising success. Social media channels can have an indirectly positive impact on the success of crowdfunding, especially for older firms. The interaction effect of firm age and investment threshold of voting rights shows that as firm grows older with investment threshold of voting rights, the amount of funding rises. It means that that the signal provided by higher firm age can mitigate the concerns arising from investment threshold of voting rights. The interaction effect of firm age and target amount is significantly positive. As firm grows older with target amount, the amount of funding rises. It means that higher firm age can mitigate the negative effect of target amount. The interaction effect of equity offered and social media channels is very close to significant and positive. For firms using more social media channels with equity offering, it can contribute to increasing the amount of funding. It means that higher social media channels can mitigate the negative effect of equity offered. The interaction effect of equity offered and the investment threshold of voting rights is significantly positive. It indicates that higher investment threshold of voting can also mitigate the negative effect of high equity offered.

#### ***Concentration in voting power***

The interaction effect results in chapter 5.3 show that concentration in voting power can mitigate the concerns arising from the separation between ownership.

In theory of corporate governance, offering less equity and offering of non-voting equity can lead to concertation in both ownership and voting rights. Project founders'

willingness to invest in their own projects signals project quality (Leland & Pyle, 1977). As company founders know more than external investors about their projects, investors can look at owners' financial commitments to obtain information about unknown firm value. Project founders who are optimistic about the potential of a venture retain as much equity as possible. Those who are not as confident that the firm can generate positive cash flows in the future tend to raise money by selling higher proportions of equity to investors. The amount of equity retained by a company's founders is traditionally considered a positive signal to external investors, in the IPO context and in VC funding (Busenitz et al., 2005). There is also a strong positive relation between ownership concentration and corporate performance in the United States and other market economies (McConnell & Servaes, 1990; Megginson et al., 1994; Shleifer & Vishny, 1986).

Similarly, project founders are willing to maintain a significant control of its projects or company if project founders are optimistic about the potential of a venture. Even project founders offering equities to the publics, concentration in voting power or setting higher limit to access voting right to protect allows them to have a majority of control on their firm. Project founders in dual-class companies still want to own the majority of the shares with superior voting power, allowing them to manage the company without having substantial equity interests and being relatively immune to external control challenges such as takeover concerns. If an project founder maintains significant voting power, they have important fiduciary responsibilities that are usually the most active in corporate governance (K. Li et al., 2008) to build up a better status of their firm. Moreover, project founders can use the superior voting power for the long-term future of their company to dominate important activities of business, including follow-on rounds of financing, director election, recapitalisation, sale or buy of significant assets, or expand its product portfolio, are more difficult to accomplish under the direct shareholder structure. And the offering of non-voting equity delivers the opportunity for founders and management to focus on a firm's performance without distractions from outsiders (Chemmanur & Jiao, 2012). Thus, concentration in voting power can mitigate the concerns arising from the separation between ownership.



Additionally, according to corporate finance research, company values improve when increasing with equity retained in controlling shareholders but decline when their voting rights exceed their equity ownership (Claessens et al., 2002; La Porta et al., 1999, 2002). When a firm with corporate structure in concentration in voting power and equity retained in controlling shareholders or founders, it may send a positive signal that firm values increase to crowdfunding investors. As a result, the larger interaction effect of voting power concentration and less equity offered might boost to the success of a crowdfunding campaign.

### ***Social media channels***

The interaction effect results in chapter 5.3 show that social media platforms can be effectively utilised as an marketing tool by businesses of all sizes and sorts (Hassan et al., 2015) and the impact of social media platforms moderate the negative impact of the separation between ownership and enhance the positive effect of firm age.

This is mainly because of social capital theories. According to structural holes theory, it is favourable for ego to be linked to a large number of alters who are not related to the other alters in ego's networks (Burt, 1992). The theory states that networks with structural holes get a person with 3 main advantages: more distinctive and prompter access to information, greater negotiating influence and thus greater control over resources and results, as well as increasing awareness and opportunities throughout the social structure.

One of the major networks used in the study of social capital in are web social networks or social media sites, such as Facebook, LinkedIn and Twitter, where two individuals are linked if they know each other. Social media allows businesses to interact with customers at the right moment and immediately convey the information of its crowdfunding campaign. This social media channels offer the benefit of fast results and accessibility to both customers and businesses and enable viral marketing and word-of-mouth promotion to be more effective (Castronovo & Huang, 2012) to increase the possibility of success of the crowdfunding campaign.

When the firms have more social media channels, they can build more connections stemming from the human network of relationships, using goodwill produced within the network of social interactions to assist actions arising from those relationships (Adler & Kwon, 2002) and embracing all of the resources that may be obtained through it (Burt, 1992; Coleman, 1988; Nahapiet & Ghoshal, 1998). These social networks will help to reduce uncertainty and attract attention (Leyden et al., 2014). Thus, as projects operate more social media channels, it will moderate the negative impact of the separation between ownership and enhance the positive effect of firm age.

### ***Firm age***

The interaction effect results in chapter 5.3 show that the greater the age of the firms is, it is likely that firms will be less affected by ambitious expectation (target amount) and dispersed ownership structure and the positive effect of higher age of the firms is enhanced by utilising the tool of social media channels.

This is mainly caused by the theory of liability of newness (Freeman et al., 1983; Hannan & Freeman, 1977). The theory argues that the failure rate of businesses is highest just after they are founded and then gradually diminishes over time. It may be because they depend on the cooperation of strangers, have low levels of legitimacy, and are unable to compete effectively against established companies. Moreover, when large expectation (target amount) or limited access to voting rights or without offering voting rights is combined with the liability of newness, the probability of success for young companies in crowdfunding campaign are more unpredictable and even decline. During their early years, companies will face the lack of ready-made procedures and routines for resolving conflicts and problems. When the firm grows older, it will have a complete set of procedures and routines to deal with conflicts and problems. Besides, business performance is expected to increase as the company and team members become older and therefore more experienced (Vassilakis, 2008) as the company may overcome economic downturns and increase its experience to deal with challenging situations. Members of the company's team learn various and particular skills to assist to provide new opportunities for companies to pursue

growth-oriented tactics, and achieve prospects for long-term wealth development (Kitching et al., 2011).

Additionally, according to goal setting theory, goals must be difficult but attainable. Difficult targets have a negative attitude if backers believe they are growing more difficult to achieve (Locke & Latham, 2002). Achieving the objective can lead to fulfilment and increased motivation, while failure to achieve the goal can lead to dissatisfaction and decreased drive. Young companies lack experiences and records in their early years. They find it hard to persuade investors that they can achieve the ambitious goals. When the firm grows older, it will have a complete set of business models and have a certain amount of reputation in their market. Older companies have more evidence, such as business records, to prove that they have higher probability of reaching their goal.

After older companies have more experiences and build its procedures and routines for resolving conflicts and problems, they will have a clearer roadmap for the future and higher probability of success. There will be fewer risks for investors involved in older companies. And, according to corporate finance research, controlling voting rights has a significant value (Dyck & Zingales, 2004). Founders of older companies will set up higher investment threshold value of voting rights. The controlling voting rights of older companies will be more expensive or the higher investment threshold value to obtain. Thus, there is significant positive interaction effect of firm age and investment threshold value of voting rights. Overall, as the firm grows older, the likelihood of negative impact of higher expectation (target amount) or limited access to voting rights or without offering voting rights decreases.

Moreover, for young companies, the impact of using social media is reduced, since they lack experiences and records in their early years. When the firm grows older, it will have a complete set of business models and have a certain amount of reputation in their market. The effect of effectivity and efficiency of conveying information in social media channels will empower them to expend. Additionally, without effectivity and efficiency of conveying information in social media channels, the investors and

companies cannot easily access to each other. Thus, the social media channels offer the benefit of fast results and accessibility and empower the positive effect of higher age of the firms.

#### 6.2.5. Modified Conceptual Framework

Building upon the findings of this project, the conceptual framework is modified to reflect the direct impact and interaction effect of the key factors on EBC. This is illustrated in the diagram (Figure 20)below:

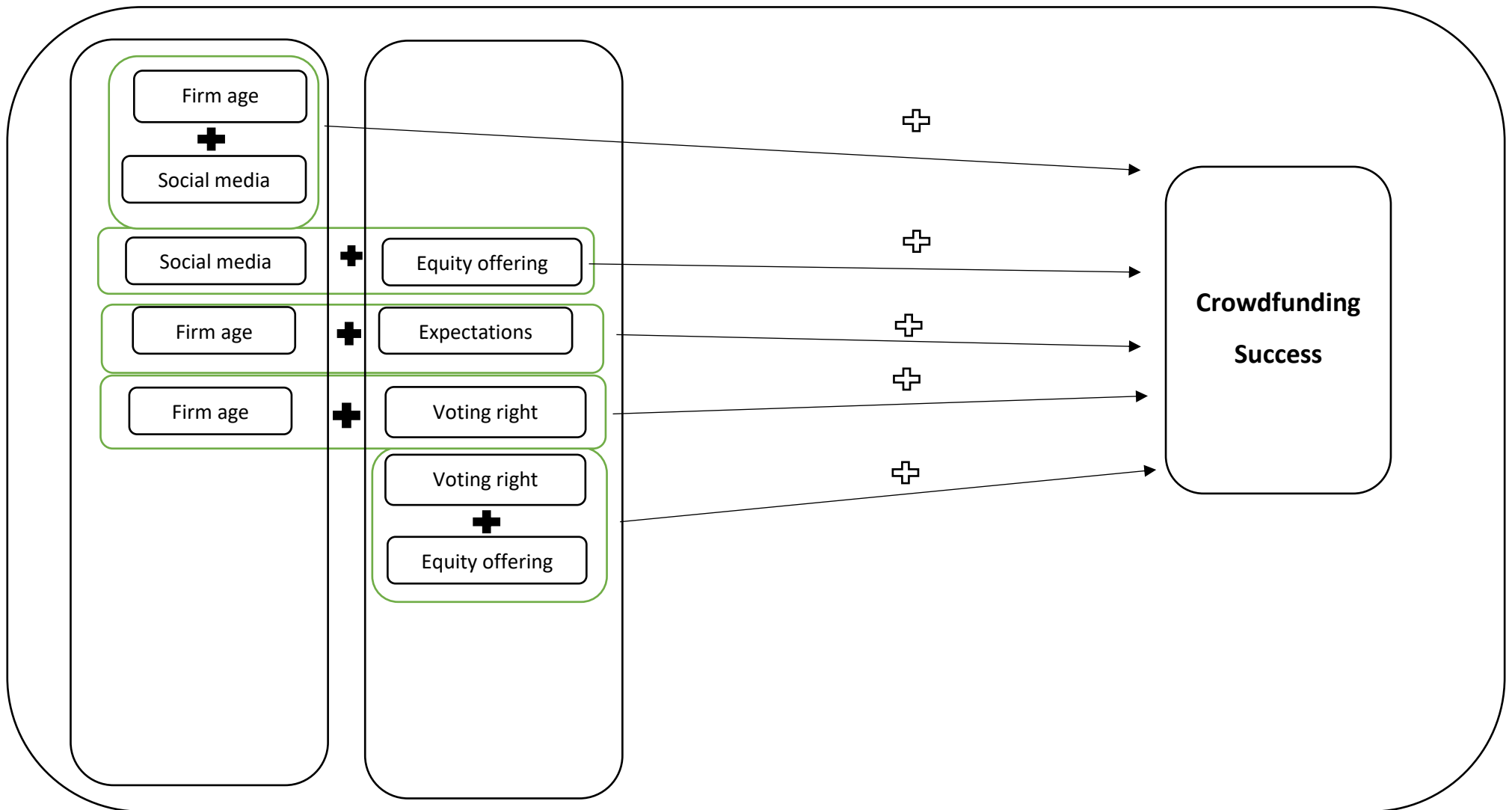


Figure 20 Conceptual framework of successful equity-based crowdfunding

### 6.3 Summary

In summary, the author finds strong empirical evidence that signalling of both project and fundraising characteristics plays an important role for investors, especially with respect to potential characteristics, the amount of target, equity offered, threshold value of voting right, firm age, the number of team member and the number of social media channels. The author also examined the relationships between the aforementioned factors and the percentage of total funding amount and found strong empirical evidence that the interaction effect of factors such as firm age and social media channels, firm age and investment threshold of voting rights, firm age and target amount and equity offered and investment threshold of voting rights. The reasons behind the interaction are discussed.

According to the results, I find support for the theory of liability of newness (Freeman et al., 1983; Hannan & Freeman, 1977). This result supports earlier research (Cumming et al., 2019; Walthoff-Borm, Schwienbacher, et al., 2018). Business age is important for the success of crowdfunding campaigns because Business age may be relative to company performance or company size, such as revenues or assets, the reputation of company and survival of crisis. EBC investors may rely on the firm age to assess the potentials of the firm, as younger firms in their early years are more likely to deal with problems of survival rather than plans of development if they do not collapse within the first few years of operation (Cowling, 2006). The interaction effect results also show that higher firm age can mitigate the concerns arising from investment threshold of voting rights and the negative effect of target amount. As a result, investors may prefer to participate in a project that is comparatively mature and safer.

My result is consistent with results in past crowdfunding research and also recent research on EBC: corporations with higher founding teams are likely to be success in funding activities (De Crescenzo et al., 2020). Team members are important for the success of crowdfunding campaigns because Business age may be the source of

information to reduce information asymmetries, providing management expertise, social network connections or accessing to other capabilities.

Moreover, I also find support for the social capital theory. The theory states that networks increase awareness and opportunities throughout the social structure (Burt, 1992). Social media allows businesses to interact with customers at the right moment and immediately convey the information of its crowdfunding campaign. This social media channels offer the benefit of fast results and accessibility to both customers and businesses and enable viral marketing and word-of-mouth promotion to be more effective (Castronovo & Huang, 2012) to increase the possibility of success of the crowdfunding campaign. Though social media channels do not appear to have direct impact on success of crowdfunding projects and have only a significantly positive impact on the number of investors, the positive effect of firm age is further enhanced after the utilisation of social media channels in EBC to an increased chance of fundraising success.

In the fundraising characteristics, the results support the theory of goal setting (Locke & Latham, 2002). Difficult targets have a negative attitude if backers believe they are getting more difficult to achieve (Locke & Latham, 2002). The results indicate that project founders in EBC prefer to set up a higher target amount because of the nature of project founders with higher confidence and expectation on their own projects. The interaction effect results also show that higher firm age can mitigate the negative effect of target amount.

My evidence supports the results of previous studies on the signalling role of equity as indicative of project quality. The impact of equity offered in EBC campaigns are negative. Offering more equity to investors gives a negative signal of company's quality because it may convey a sign of giving up control premium, the higher level of uncertainty and imposing agency problem. The amount of offering equity to investors is perceived as a signal of company's quality in traditional corporate research (Leland & Pyle, 1977).

My results in crowdfunding campaign are consistent with the below corporate finance studies. The research in context of corporate finance finds that the valuation of firms with a more severe separation between ownership and controls is lower than those with higher concentration between ownership and controls (Faccio & Lang, 2002; La Porta et al., 1999, 2006). Importantly, I also find that projects with the higher threshold value of investment in voting rights also can attract more investors' interest than others lower threshold value projects. This is a novel finding. If project founders are optimistic about the project's future, they may set up high investment threshold value of voting rights in their projects and retain the most valuable asset for themselves rather than sell it to amateur investors and hold the majority of the shares with superior voting power. Thus, it could send a signal full confidence in a company's future prospects and attract more investors than the shares without any voting rights. The interaction effect results also show that higher firm age can mitigate the concerns arising from investment threshold of voting rights, and concentration in voting power can mitigate the concerns arising from the separation between ownership.

The next part will go into how the results address my research question, and how my research contributes to the body of knowledge.



## 7 CONCLUSIONS

In earlier chapter, the connection was drawn between crowdfunding project founders and potential investors. Building upon how project founders send signals to investors (Ahlers et al., 2015) and attract them into their crowdfunding campaign, this is then followed by discussion on how general principles of entrepreneurship can be applied to crowdfunding campaign projects and how fundraising structure's principles of financial structure can be applied to crowdfunding campaign projects. This chapter will go into how the results address my research question and will cover the contribution to knowledge of this project.

### 7.1 Addressing Research Question

I began with the question which factors that give rise to successful EBC campaign and influence investors' participation in chapter 1. I argued that project characteristics (firm age, social capital and human capital) and fundraising structure characteristics (expectation, equity offered and share with voting right) signal the project's quality to potential investors during a crowdfunding campaign in chapter 3. Based on this main research objective, I further investigated whether the number of firm age, team member and social media channels in project characteristics has a positive effect on successful EBC campaign and crowd participation, and the number of target amount, equity offered, shares with voting rights and the investment threshold value of voting rights have a negative effect on successful EBC campaign and crowd participation.

My results in chapter 5 indicate that there is indeed a statistically and economically significant effect of firm age, target amount, and Investment with no voting rights on both the number of investors and the investment amount raised. However, team members, investment threshold value between £0 and £3000, investment threshold value between £3000 and £5000 and Investment between £5000 and £10000 are only significant on investment amount raised. These findings respond to my research question that projects' firm age and team members, how to set target amount and equity amount to public, whether share with voting rights and investment threshold value of voting rights directly and significantly affect the likelihood of success of

crowdfunding campaign. In addition, my findings suggest that even though investors value signals of social media channels, it does not have a significant effect on the investment amount raised.

## 7.2 Research Values

Building upon entrepreneurship and finance literature in examining the specific role of project's characteristics in crowdfunding, three different elements of project characteristics on Crowdcube were considered, namely: Firm age, Team members and social media channels; and the development of the hypotheses in the model – three different elements of fundraising characteristics on Crowdcube were considered, namely target amount, equity offered and the threshold value of share with voting rights. Many researchers include these elements into their analysis (Cumming et al., 2019; De Crescenzo et al., 2020; Vismara, 2016; Walthoff-Borm, Schwienbacher, et al., 2018). The key argument discussed in the conceptual framework (Chapter 3), was that these different dimensions of project characteristics could be studied, within crowdfunding, through the examination of the signals sent out by the project founders, with signals, as representations of the different types of quality of projects. This approach enabled the formulation of the hypotheses about the impact of projects characteristics' and fundraising characteristics' signals by considering if the specific element of characteristics captured by the signal was expected to have a positive or negative impact on projects' success.

For project characteristics, many researchers used company age to link with company growth as one of the explanatory factors for their company growth regression model and found younger companies usually associated with better expected growth rate (Lawless, 2014). Investors on EBC platforms may hope to gather information about the team. Human capital attributes have typically been considered as an important determinant for the success of new start-up (Florin et al., 2003). And social media tools can be used by business firm of various sizes and types as a marketing tool (Hudson & Thal, 2013). Social media enables a business firm to

connect with customers at the right time, directly with lower cost and higher efficiency than other traditional communication tools.

For fundraising characteristic, the funding target is considered as a proxy of the expectation of the project founder. Within the literature, higher levels of entrepreneurial expectation are seen as a positive element, driving start-ups ability to grow and expand (E. Stam & Wennberg, 2009). The amount of equity retained by a company's founders is traditionally considered a positive signal to external investors, in the IPO context and in VC funding (Busenitz et al., 2005). Investors particularly keep the retaining shares attached with higher voting rights to preserve benefits of control. Compared with those with higher voting rights, investors may preserve their hesitation to invest in the shares attached with inferior voting rights.

Most of hypotheses in my conceptual framework are supported by my results. For project characteristics, higher firm age and more team member can significantly contribute to the success of crowdfunding campaign, but the signal of social media channels are only significant on investors participation. For fundraising structure characteristics, lower target amount, offering less equity and offer voting right and higher investment threshold value can also significantly contribute to the success of a crowdfunding campaign. Importantly, higher investment threshold value of voting rights contributing to the success of a crowdfunding campaign is opposite with my hypothesis which can provide a new direction on research. Moreover, in my univariate analysis (Chapter 5.2), my result also indicates that there are u-shape in projects of share with investment threshold value of voting right in term of the amount of fund raised, the number of investors, firm age, team member and social media channels.

These results suggest that higher quality projects (higher firm age, more team members and more social media channels) are reluctant to give up and sell their voting rights and prefer to set shares without voting rights or setting up higher investment requirement of shares with the highest threshold value of voting rights. Secondly, the results also suggest that there are a lot of investors involving in projects

with no voting rights. It means that if a project has better – quality signals, such as a higher company age, more human capital (team members), more social capital (social media channels), and a reasonable expectation, investors may still wish to participate in this project, regardless of whether shares have voting rights or not. In the control factors, I also found that creating a video and granting EIS tax relief can have a positive and significant influence on investor participation, but not on the amount of money raised. The Seed Enterprise Investment Scheme (SEIS) and the Enterprise Investment Scheme (EIS), tax incentives of the UK setting, have been used by many prior studies (Cumming et al., 2019; Rossi et al., 2019b; Vismara, 2016; Walthoff-Borm, Schwienbacher, et al., 2018). The settings of videos also have been used by many studies (Lagazio & Querci, 2018; Mollick, 2014)

Where the hypothesis is supported, it is fair to suggest that project founders of projects should aim to design their projects in a way that signal these characteristics to potential investors. These include aspects including project characteristics (business growth, social capital and human capital) and fundraising characteristics (target amount, equity offered and voting right).

In addition to the findings that some of the factors contribute significantly to the success of the crowdfunding projects, another key finding that was identified in the in-depth analysis (Chapter 5) is the interaction effect of different factors on the success of the projects. The interaction effect results show that the greater the age of the firms is, is the more likely that firms will be less affected by ambitious expectation (target amount) and dispersed ownership structure and the positive effect of higher age of the firms is enhanced by utilising the tool of social media channels. Moreover, the impact of social media platforms moderates the negative impact of the separation between ownership and enhances the positive effect of firm age. And concentration in voting power can mitigate the concerns arising from the separation between ownership. It also suggests that project project founders evaluate the connection of many aspects based on the features of their projects to optimise their crowdfunding campaign and increase the chance of success.

### 7.3 Contribution to Knowledge

My research contributed to the extant understanding on entrepreneurial financing and crowdfunding. Despite the fact that numerous studies have focused on traditional outside sources of equity financing (such as private equity, venture capital and angel investor), there is still a shortage of study on innovative alternative sources of financing, including EBC. The findings of this project help to shed new light on the criteria used by early-stage investors. It has been discovered that start-ups utilise certain information to communicate their quality to investors, such as the competence of their executives, copyrights, network relationships, and firm performance (Cumming et al., 2019; Johan & Zhang, 2020; Lagazio & Querci, 2018; Vismara, 2016; Walthoff-Borm, Vanacker, et al., 2018). In my study, I found that specific signals (firm age, the number of team members, the number of social channels, equity offered, target amount and voting right) in crowdfunding campaigns appear to affect the likelihood of a successful campaign and how these signals interact with each other to assist projects' crowdfunding campaigns. As a result, my study helps to advance understanding of EBC by examining effective signals of project characteristics and fundraising structure characteristics in EBC campaigns.

Furthermore, my thesis adds to the small but increasing body of literature on the implications of voting rights on EBC participation (Butticè et al., 2020; Cumming et al., 2019; Rossi et al., 2019b). As of now, this research has considered whether the influence of investment threshold value of voting rights in start-ups can also supply or reveal information to the public when operating an EBC campaign. My research takes an in-depth approach to this topic and explores these impacts, taking into account the investment threshold value of voting rights granted during crowdfunding campaigns.

### 7.4 Summary

This chapter has outlined how the results address my research question, how they are connected to my conceptual framework, and how my research contributes to the body of knowledge. In summary, I find strong empirical evidence that signalling plays

an important role for investors, especially with respect to project and fundraising characteristics including firm age, team members, social media channels, target amounts, equity offered and voting right. I also find that projects with the higher threshold value of investment in voting rights also can attract more investors' interest than others' lower threshold value projects. This is a novel finding. If project founders are optimistic about the project's future, they may set up high investment threshold value of voting rights in their projects and retain the most valuable asset for themselves rather than sell it to amateur investors and hold the majority of the shares with superior voting power. In the further analysis of interaction effect, social media channels can have an indirectly positive impact on the success of crowdfunding, especially for older firms. My research contributed to the extant understanding on entrepreneurial financing. Specifically, it enables exploration into the impacts of ownership and control separation by accessing the factor of equity offered and the impact of voting rights. Moreover, it adds to the growing crowdfunding literature by enhancing the body of research on the project and fundraising characteristics of crowdfunding campaigns. Furthermore, a new theoretical framework is developed that is to be the foundation of the conceptual framework of EBC by considering signalling theory, goal setting theory, social capital theory and shareholder voting right. Importantly, the findings of this study help to shed new light on the criteria used by early-stage investors.

In the next chapter, it will state a set of implications resulted from the earlier chapters of the thesis. The implications focus on specific implications for project founders, investors, platforms and policy makers involved in crowdfunding. And it also discusses the limitations of this study and offers avenues for further research.

## 8 IMPLICATIONS, LIMITATIONS AND FUTURE RESEARCH

The following section presents a set of implications resulting from the findings of the thesis. It focuses into specific implications for project founders, investors, platforms and policy makers involved in crowdfunding. This is then followed by discussions of the limitations of this study and offers avenues for further research.

### 8.1 Implication for Project Founders

**Implication one for Project founders:** The result of the findings has major implications for the key end users of EBC, that is the project founders. Firstly, when should project founders launch their equity based crowdfunding project is a key factor that needs to be consider carefully.

The results from this study show that project founders who urgently set up into EBC within one or two years send a negative signal to the investors, negatively impact on the probability of crowdfunding campaign success. As mentioned in Chapter 3, firm age can be relative to business growth. According to Gibrat's law, a firm's rate of growth is independent of its size at the start of the period, and the likelihood of a particular growth rate during a given time interval is the same for any organisation in the same industry (Almus, 2000). Firm age may be needed to consider as an independent factor for investors to choose a project associated with higher potential growth rate (Cowling et al., 2018). Moreover, Firm age can also be a signal of firm experience. Business performance is likely to improve as both the firm and team member become more aged and thus experienced (Vassilakis, 2008). The length of time can also be considered as a signal for the company's experience. Within one or two years, a firm may send a message to investors. The firm has a greater growth rate, but it is not steady because seed and early-stage projects are riskier than growth stage ones. Most investors may prefer to participate in a project that is comparatively mature and safer. From a learning perspective, company performance is expected to increase as both the firm and team members get older and therefore more experienced (Vassilakis, 2008). The firm's experience is represented by the economic activities they have encountered. Economic instability may exist at the time of a

company's formation. It can inform a potential investor more about the company's ability to overcome economic downturns. Moreover, much of a team member's or company's overall image is built up over time via continuing engagement with numerous stakeholders (Brewer & Gardner, 1996). Thus, the amount of time a firm has been in operation may also inform a potential investor more about the company, allowing them to socially identify with various aspects of it.

Another reason is that older firms would have a longer history of operational activities that investors may research target company's business records. Business records are vital for conducting a due diligence of target company for investors. It can mitigate the risk of fraud, can increase the success rate of finding a company with growth potential and ultimately can improve the return for investors. Thus, higher firm age plays a key part in crowdfunding success. For project founders, they should consider entering crowdfunding at a later stage and have more experience in their industry market. In short, for a young firm, they must be aware that their firm age is a factor that count against them, and if possible, they should refrain from launching the EBC project too early, otherwise it can be interpret as one that is “not ready” and may not achieve the target that it wishes to pursue.

**Implication two for Project founders:** Project founders should actively expand in communication channels in social media of project and update the crowdfunding campaign site before the campaign is ongoing:

The importance of social networking for small businesses was discussed in earlier chapter. Social media tools may be utilised as an advertising medium by businesses of all sizes and different types (Hassan et al., 2015). Social media allows businesses to interact with customers at the right moment, immediately, and at a lower cost and efficiency than other traditional communication channels. This permits social media to be monopolised not just by huge corporations, but also by small and medium-sized businesses (Kaplan & Haenlein, 2010a). Furthermore, social media sites like Facebook and Twitter allow consumers to follow their favourite businesses and comment on or ask questions about relevant items or services. Businesses may use social media



sites to track what is being said about their brands and connect directly with customers (Reyneke et al., 2011).

These small company owners recognise the importance of the internet and social media in, for example, forming intangible relationships with consumers and establishing a market presence in order to compete. Consumers are increasingly and actively using internet technology, which provides chances for companies to contact and connect with more consumers through websites and social media sites (Hagel & Armstrong, 1996; Jones et al., 2015)

Social media tools have the benefit of rapid results and accessibility to both customers and firms, giving social media a benefit over conventional marketing approaches. Because of the high degree of consumer involvement connected with different types of web-based media, social networking sites such as Facebook, Twitter, LinkedIn, and others enable viral marketing and word-of-mouth promotion to be more effective than traditional media sources. Opinion leaders have the potential to significantly impact customers' beliefs, actions, and values, and they can successfully reach large numbers of people through blogs and social networks (Acar & Polonsky, 2007). Social media has offered marketers with new and effective means of not only contacting their particular target audiences, but also encouraging word-of-mouth communication and support among online communities by raising consumers' interest in the brand (Castronovo & Huang, 2012).

Small company is the main type of firm to raising capital in EBC. The benefits of social media for small company also can contribute to the success of crowdfunding campaign. The result of models show that increased number of social media channels have a positive impact on the likelihood of a project succeeding within Crowdcube. This may suggest that social media can assist in the dissemination and disclosure of crowdfunding project's information in time and the communication of potential investors and receiving feedbacks from them. Thus, project founders can increase their projects' social media channels in their campaigns to help attracting more attention from investors.

**Implication three for Project founders:** Project founders should utilise stronger human capital in support of their crowdfunding projects.

Human capital characteristics have always been seen as a key predictor of the success of new ventures (Florin et al., 2003) as well as the most important selection factor for professional investors such as business angels and venture capitalists (Ralcheva & Roosenboom, 2020). Furthermore, empirical evidence indicates that stronger human capital is associated with exceptional success in several aspects of start-up enterprises (Colombo & Grilli, 2010), including access to extra resources (Baum & Silverman, 2015).

Young companies typically have limited information about them, such as a track record, a high proportion of intangible assets, particularly in high-tech companies, a lack of internal funds, and a low debt capacity due to a low proportion of tangible assets, making it difficult for normal investors to scrutinise properly and effectively. Investors utilise top management team features (Baum & Silverman, 2004; D. H. Hsu, 2007) and founder's education (Davidsson & Honig, 2003) as signals to decrease information asymmetry. The function of social capital in team member financing is essential because network links between team members and potential investors impact the selection of initiatives to fund, overcoming knowledge asymmetries (Shane & Cable, 2002). Team member' human capital also is a critical signal for professional investors (Robb & Robinson, 2014). Indeed, professional investors are more likely to use their capacity to analyse each member of the management team in depth and to appraise the complementarities of its members' human capital (Kaplan & Strömberg, 2004). However, because amateur investors lack the investing experience to study the team individually, it is a better decision to perform a comprehensive review of the whole crowdfunding team.

The higher human capital is related to outstanding outcomes in EBC success (Piva & Rossi-Lamastra, 2018). Other studies look into the connection between the existence of a large Crowdfunding team and the successful completion of a funding round (Lagazio & Querci, 2018). Ventures operated by a big management team rely on a

larger network of contacts as well as more diverse talents. A big management team is especially essential for fledgling businesses since it improves the firm's legitimacy (Cooper et al., 1994). Evidence from the author's study on EBC supports that the greater number of team members can be utilised to positively impact success within crowdfunding platforms. This implies that the greater the number of management team members, the easier it will be to communicate with various investors and bring their own social connections. As a result, project founders should build a substantial human capital in support of their crowdfunding campaigns.

**Implication four for Project founders:** When conducting EBC, Project founders should set appropriate expectation and develop realistic funding goals, which can refer to the funding target of other projects within the relevant or similar industry.

Higher levels of entrepreneurial expectations are viewed as a good factor in the literature, increasing start-ups' capacity to develop and expand (Bosma & Schutjens, 2009; Davidsson & Honig, 2003). However, excessive amounts of entrepreneurial expectations have been considered to have negative effects on the overall macro level of the economy, leading to economic inefficiency (Cieřlik et al., 2018). Additionally, within the crowdfunding literature, expectation has been identified as having a negative effect. Mollick (2018) suggests a considerably simpler reason why overly expected projects are less likely to obtain funding is because they are more difficult in general, making them more likely to fail in development and hence less likely to receive funding. The all-or-nothing regulation, which requires all projects to meet their financing objective in order to receive money, would amplify this impact.

The funding target and thus the relative funding target can be set at any level by the project founder and this level of funding can also be exceeded. The relative funding target can be considered as a signal for the level of confidence of the project founders of the crowdfunding project. With the reasoning being that: the greater the confidence the project founders has in the project, the more likely that the project founders will consider their project to be better within the same year and thus that they are able to set a higher funding target. If the project founders lack this

confidence, then they would be more likely to consider their project to be worse within the platform, thus setting a lower relative funding target. According to the theory of goal setting, difficult targets have a negative attitude if backers believe they are growing more difficult to achieve (Locke & Latham, 2002). Finally, achieving the objective can lead to fulfilment and increased motivation, while failure to achieve the goal can lead to dissatisfaction and decreased drive. Thus, goals must be difficult but attainable.

Hence, the funding target can be seen as an effective signal of confidence and expectation of the project founders . The results state that general project founders signalling through their high funding targets might unintentionally have a negative impact on the success of the crowdfunding project. The results from the models provide clear evidence that project founders having a higher target amount in their projects negatively impact the probability of success in a project campaign. This suggests that goals should be set up reasonably and attainably. The high target amount may be failure to achieve and lead to dissatisfaction and decreased drive. Thus, Project founders should set more realistic funding target, rather than comparing themselves to blockbuster projects.

**Implication five for Project founders:** Project founders should offer less amount of equity and maintain ownership concentration to focus on business operation.

Penrose (1959) also reveals that slack resources are the main drivers of a firm's growth strategy. Therefore, resource-rich business can use those abundant resources to operate project founders subsidiaries successfully and help them obtain better performance. The author can extend to small business in crowdfunding. Low-quality projects may have less resources, therefore they must give more equity to entice investors. On the theoretical side, when a firm's ownership is distributed, shareholders are not motivated to closely monitor management choices since the resulting gain is insufficient to offset the monitoring expenses. Shleifer & Vishny (1986) that some degree of ownership concentration improves business performance because big block shareholders have some incentives and resources to

scrutinise management choices since they stand to gain a significant portion of the profits from improved firm performance or a takeover.

Moreover, in SMEs, Leland & Pyle (1977) argued that project founders' willingness to invest in their own project signals project quality. Because company owners are better knowledgeable about their projects than external investors, investors might examine owners' financial commitments to learn about undiscovered business value. Project founders that are confident in the prospects of their enterprise keep as much ownership as feasible. Those who are less confident in the firm's ability to create positive cash flows in the future prefer to raise funds by selling larger percentage of shares to investors. In the context of an IPO and venture capital investment, the amount of stock kept by a company's founders is typically regarded as a favourable indication to external investors (Busenitz et al., 2005). Furthermore, as compared to other types of financing, equity funding is highly expensive for SMEs. For example, venture capitalists usually spend only significant sums of money, allowing them to finance larger projects rather than smaller ones. This is due to the restricted availability of venture capitalists and the capacity of SMEs to contact venture capitalists, particularly in developing nations. Thus, the author argues that founders using more expensive forms of finance by offering more equity, it also suggests that project may be low-quality.

According to the Crowdcube results, project founders that provide less ownership are more likely to succeed. This implies that project founders who sell a smaller part of their company's stock to investors convey a signal of future investment and indicate project founders' confidence in their own initiatives in the long term. As a result, in order to increase the chance of a successful crowdfunding campaign, the author recommends that the project founders should give less ownership.

**Implication six for Project founders:** Project founders should provide shares with voting rights rather than shares without voting rights.

Because they are majority shareholders, the founders retain control of their company even after the campaign is over. The interests of majority owners may or may not be congruent with the interests of minority shareholders. Principal-principal conflicts arise when majority owners utilise their voting rights to make decisions that do not benefit minority shareholders equally. For example, majority owners may use their voting power to enrich themselves at the expense of other shareholders (Hart, 1995). Furthermore, because voting rights are connected with value, shares that have voting rights are more valuable than shares that do not have voting rights.

In the direct shareholder structure, firms deliver individual voting rights to each investor based on the number of shares acquired. Hence, crucial corporate events, such as follow-on rounds of financing, director election, recapitalisation, sale of significant assets, or managerial salary increase that require shareholders' approval, are more complex to implement under the direct shareholder structure. Some shareholders may be quite inactive (i.e., they are not interested in participating to corporate events) and therefore may have to be contacted repeatedly to get their approval. In addition to increased coordination problems, it is more difficult for project founders to reach an agreement with many shareholders – having potentially misaligned interests – and close the financing deal.

For the existing shareholders, they may need to pay higher price for the benefits in the dual-class structure. They particularly keep the retaining shares attached with higher voting rights to preserve benefits of control. Compared with those with higher voting rights, investors may preserve their hesitation to invest in the shares attached with inferior voting rights. For management of dual-class structure's company, dual-class structure can ensure their control. Moreover, Bebchuk and Zingales (2000) describe that exclusive use of dual class share structures can distort a firm's controlling shareholder structure. Moreover, empirical evidence shows different opinions. Trading price of dual-class firms is lower than the price of single-class firms (Smart et al., 2008), whenever at the IPO or at least the subsequent 5 years, whereas Bohmer, Sanger, & Varshney (1996) show that performance of dual-class IPO-firms

can be better than those with structure of single-class in both stock price and operating performance.

The results demonstrated that project founders who tend to offer voting right in crowdfunding campaign can enhance the likelihood of success of its campaign. Due to the separation between ownership and control, investors are concerned about the conflict interest between investors and project founders. Moreover, the right to vote has monetary worth. The price of a share with voting rights is greater than the price of a share without voting rights. The strategy of offering voting rights can try to mitigate investors' concerns by alignment of their interests. Thus, project founders should offer voting rights to increase the probability of crowdfunding campaign success.

**Implication seven for Project founders:** Project founders can set a high minimum investment threshold with voting rights to increase its likelihood of success, especially for those projects with higher firm age, more team members and a higher amount of social media channels.

Insiders' investing decisions may be influenced by a large difference between their voting rights and economic ownership (Bebchuk et al., 2000). Decoupling, on the other hand, may result in a variety of efficiency gains for them. Insiders are typically undiversified, which makes them vulnerable to firm-specific risk (Hu & Black, 2007). Greater economic ownership hedging capability may lead to their being more willing to undertake riskier positive net present value activities while being less likely to participate in value-reducing hedging inside the firm (Hu, 1990). Dual-class share arrangements may also enable controlling owners to pursue growth opportunities that they would otherwise pass up if forced to choose between the opportunity and the risk of losing control (Gilson, 1987). These arrangements may also allow businesses to focus on long-term investments with unclear payoffs for outside investors (DeAngelo & DeAngelo, 1985). As a result, project founders that establish a high minimum investment threshold with voting rights in a crowdfunding campaign benefit from maintaining majority ownership.

Much of the available empirical research on the value of voting rights focuses on small samples of firms that have multiple classes of common stock listed and trading on a major market. These shares typically have different degrees of voting power, with high-vote shares owned by management and/or the founding family of the company. These articles compare the market prices of high-vote and low-vote shares issued by the same company and adjust for dividend variations to isolate the market price of a voting right. Control has a considerable value, maybe as much as 50% of the company's worth, according to cross-country research (Dyck & Zingales, 2004). In the United States, the average value of control is 2–4% of company value (Nenova, 2003), however it can be much higher in certain control disputes (DeAngelo & DeAngelo, 1985; Zingales, 1994). Moreover, When the business's control is put into play, voting rights become valuable in the near term, and they become valuable in the long run if the company is chartered in a state or country that enables considerable extraction of private control advantages (Yermack, 2010). Thus, creating a high minimum investment threshold that includes voting rights sends a message to investors that project founders want to possess major valuable voting shares.

According to the findings of the models, projects with a higher minimum investment threshold value and voting rights are more likely to succeed. This suggests that higher minimum thresholds indicate that project founders are confident in their firm and do not want to surrender its valuable asset. Higher-quality projects can attract more potential investors, and project founders are hesitant to give up more control since they are confident in the project's long-term success. As a result, amateur investors may be less sensitive to and capable of investing in shares with voting rights. Amateur investors, on the other hand, continue to believe that the better the quality of the project, the more they should invest in the shares, even if they do not have voting rights. It is, however, clearly challenging and inadvisable for projects with a younger business, less human capital, and fewer social media networks.



## 8.2 Implications for Investors

The other key pillar of EBC, with them no project can be successful. In this section, the implications of this research projects to investors will be discussed.

**Implication one for investors:** Use the signals provided by project founders in terms of project characteristics and fundraising structure characteristics to compare crowdfunding campaigns.

As previously stated, higher quality projects may have seven characteristics, including a higher firm age, more social media channels, more management team members, a reasonable target amount, less equity, voting rights, and a share with a relatively reasonable minimum investment limit to obtain voting rights. Project characteristics may be utilised to undertake investment due diligence, and fundraising structure characteristics can be used to match investors' investment requirements, such as the desire for voting rights.

For project characteristics, higher firm age can also be a signal of firm experience. Business performance is likely to improve as both the firm and team member become more aged and thus experienced (Vassilakis, 2008). Older firms may have a longer history of operational activities that investors may research target company's business records. Business records is a vital for conducting a due diligence of target company for investors. It can mitigate the risk of fraud, can increase the success rate of finding a company with growth potential and ultimately can improve the return for investors. Social media can assist in the dissemination and disclosure of crowdfunding project's information in time and the communication. Various social media networks may be used to do due diligence on investments and interact with project founders regarding project details. The function of social capital in team member financing is essential because network links between team members and potential investors impact the selection of initiatives to fund, overcoming knowledge asymmetries (Shane & Cable, 2002). Investors can study the team individually to do due diligence. The more management team members a project has, the bigger the scale and stability of the firm.

For fundraising structure characteristics, Investors can choose the target firm based on its investment requirements. Those who are less confident in the firm's ability to create positive cash flows in the future prefer to raise funds by selling larger percentage of shares to investors. In the context of an IPO and venture capital investment, the amount of stock kept by a company's founders is typically regarded as a favourable indication to external investors (Busenitz et al., 2005). Project founders who sell a smaller part of their company's stock to investors convey a signal of future investment and indicate project founders' confidence in their own initiatives in the long term. Arrangements dual-class may also allow businesses maintaining major controlling and assisting to focus on long-term investments with unclear payoffs for outside investors (DeAngelo & DeAngelo, 1985). Voting rights are connected with value and shares that have voting rights are more valuable than shares that do not have voting rights. As a result, project founders that establish a high minimum investment threshold with voting right in a crowdfunding campaign benefit from maintaining majority ownership. Equity offering and voting rights can be criteria for screening. Investor can match with fundraising structure characteristics of projects with its investment requirements, such as if it is necessary to gain voting rights.

Thus, the author suggests that projects characteristics may be utilised to undertake investment due diligence, and fundraising structure characteristics can be used to match investors' investment requirements, such as the desire for voting rights.

### **8.3 Implications for Platforms and Policy Makers**

With respect to implications of platforms and policy makers, my results find out the fact that firms that benefit from tax incentives are more likely to raise more investors in crowdfunding campaigns. This outcome demonstrates the effectiveness of the United Kingdom's economic policies, which might serve as a model for other nations when exploring how to promote crowdfunding. Policy makers who aim to find a balance between the objectives to facilitate capital formation and the need for

investor protection and more stringent regulation. However, the fast growth of crowdfunding has generated questions about the suitability of this sort of investment opportunity for the crowd, leading in an intense discussion about whether crowdfunding regimes should encourage EBC or tighten controls.

The author shows that differences of project characteristics and fundraising characteristics between various projects affects the probability of success in crowdfunding campaigns. The findings are also useful for platforms and policymakers concerned about the rationality of equities investors. Investors tend to employ signals and rationally analyse the risk-return characteristics of investment possibilities; hence, mandating disclosure of company attribute information and financial statements to aid informed judgments is worthwhile. Investors appear to evaluate both pro-forma and historical financial statements. The degree of transparency on contractual terms and financial information determines an investor's risk exposure. Less transparency on project contractual conditions and financial information may result in positive crowd evaluations for a low-quality project, which might have a negative impact by catalysing overly eager financing behaviour of investors. It is also critical to continue monitoring the performance of the firms that use EBC markets in order to take appropriate corrective action when EBC markets fail to deliver on their commitment to providing access to finance for viable businesses. Investors may profit even more from the implementation of corporate governance regulations and improved transparency in contractual terms. Indeed, the usage of dual-class shares may be advantageous to project founders , who have fewer distractions than when working with a large number of small investors.

Platforms can mitigate the negative parts of the crowd's impact by requiring beginner or amateur equity investors to participate in training programmes. They can also implement an ex-ante review procedure on projects prior to launching a crowdfunding campaign to assure the accuracy and quality of expected financial information disclosures. Furthermore, planned investment constraints should be actively monitored by EBC platforms, and policymakers should monitor or enforce

individual funding limits instead of allowing amateur investors to monitor and self-regulate their own financing activities. Finally, platforms and policymakers should consider measures to assist founders in developing realistic objectives and goals in order to sustain crowdfunding's low rate of fraud and high rate of growth.

#### 8.4 Future Research and Limitation

As with any research, my study is not free of limitations, which provides important avenues for future research. Crowdfunding investors seem to pay a great deal of attention to the financial and governance material that firms provide. However, at this point, the industry is still in its infancy, and thus the data in this thesis do not enable to make all meaningful evaluations of firm outcomes yet. This thesis mainly focuses on the projects first time into EBC. There are several projects on Crowdcube that are looking to raise cash in a second round of EBC. Future study can look at the influence of the first round of crowdsourcing success on the second round of crowdfunding.

##### ***Human capital***

A more in-depth analysis of these elements may indicate that they play more significant functions. The author uses the number of management team members to measure the human capital of projects. As Piva & Rossi-Lamastra (2018) notice that human capital signals and project founders' success in EBC, it needs detailed information regarding management team for investors. Using the number of management team members is insufficiently detailed. Moreover, Ahlers et al. (2015) concentrate on one of them, such as having an MBA education background, to provide a limited view. An investor who has worked in a certain sector is likely to be better able to interpret the job experience obtained by an project founders in that area. In accordance with Park & Patel (2015) strategy for IPO subscription, the author simply assumes that crowdfunding investors are constrained rational and uncomfortable with confusing signals. Future contributions should collect information on investor's characteristics and investigate their interactions with human capital signals given by businesses searching for online EBC.

### ***Social capital***

Another factor needing more in-depth examination is social capital. The author utilises the number of social media channels as a metric for the social capital of projects, instead of using the number of each social media channels' connections or followers. There is an advantage with using the number of social media channels in a project campaign as a metric for social capital in that these were captured only at the project page on the crowdfunding campaign and it cannot fluctuate during the period of the crowdfunding campaign compared with using the connections or followers in social media channels, such as Facebook, Twitter, or LinkedIn. The connections or followers can change all the time during the process of the campaign. Moreover, many campaigns have been ended for a long time which of these connections or followers cannot represent its social capital during the project campaign at that time which would lead to affecting the accuracy of data.

As in the above discussion, the usage of social media channels is considered vital to the number of the investors, and it would be of utility to compare the difference of the number of posts on each social capital channel and the changes between, at the beginning of, and at the end of campaigns, and to examine the relationship between project's attention and the number of posts on its social media channels. Perhaps these can lead to the identification of further research

Moreover, Vismara (2016) calculated project founders ' social capital based on the exact value of LinkedIn connections, but they did not consider the socioeconomic significance of each relationship. Moreover, Block, Hornuf, & Moritz (2018) include social interaction in crowdfunding campaign. They further examined whether the frequency of updates affects crowd involvement. Future contributions should collect information on the socioeconomic relevance of each relationship for social capital signals provided by firms looking for EBC online.

### ***Fundraising structure***

Now, within Crowdcube, it is very difficult to observe the average amount of funds raised by each project, if the platform is not provided with this information. They will

likely overestimate their capability of fund-raising, which may result from the existence of blockbuster projects (J. Liu et al., 2015), and create an expectation of unreality for the result of the crowdfunding projects. Moreover, the focus of project founders should change to provide a realistic funding target by stating how project founders can use new products or services and objectives to let them to attract more investment to over their original funding goal. Additionally, project founders should consider comparing its target amount of project with other projects in their industry sector or similar company size.

Moreover, my results show that a high separation between ownership and control negatively affects the probability of success of the crowdfunding campaign and attracting more investors. Higher quality projects with a high investment threshold value of voting rights have a positive impact on the likelihood of success of the crowdfunding campaign, while it also increases the number of investors. This finding opens new future research in the EBC literature, which has so far taken into account the supply of equity to a group of relatively unsophisticated or amateur investors. Considering the diversification of the experience and different background of EBC investors, future research should consider whether and how difference of sophisticated and amateur investors selects to invest in shares with voting right.

Finally, the decision-making processes of amateur investors, a comparison of selection process in amateur investors and sophisticate investors, a comparison of screening and selection activities between crowdfunding platforms and a comparison of traditional stock markets and crowdfunding markets are matters for future research. In particular, I am interested in the difference between amateur investors and sophisticated investors in choosing suitable investment alternatives.

### ***Agency conflicts***

A worthwhile follow-up research topic concerns the entrepreneurial, firm-level, and institutional features that mitigate possible agency conflicts caused by the direct shareholder structure (Cumming et al., 2019). Another promising area for further investigation is the sort of professional investors attracted (such as institutional

venture capital and corporate venture capital). The examination of how the choice of a financing source interacts with the design of an ownership structure is also undoubtedly an interesting issue (Cumming et al., 2019). Follow-up research topic can compare the investment activity of amateur investors and professional investors (such as angel capital and venture capital) in EBC. According to the literature, venture capital investors differ in their strategic aims, governance, and investment skills (Gompers & Lerner, 2004; Hellmann & Puri, 2002). Such distinctions may expose potential professional investors to agency conflicts linked to the direct shareholder structure chosen during the EBC campaign to varying degrees (Butticè et al., 2020).

### ***Simple size***

The author analysis focuses on over 600 start-ups that received EBC and examined factors influencing the success of crowdfunding campaign. Future research can look at the factors that cause new ventures to fail soon after receiving EBC. The author's sample size is small, with only a few successful crowdfunding campaigns. Repeating my studies on bigger samples would provide more support for my findings. As EBC grows in popularity (Butticè et al., 2020), statistics on a larger number of crowdfunding projects will become available shortly.

### **8.5 Summary**

Finally, as mentioned above, the authors concentrate on Crowdcube, a unique EBC site in the United Kingdom. Future study might determine if the findings of this project are applicable to other EBC platforms and nations, which may have different regulations, platform structure, due diligence methods, and contracting mechanisms (Walthoff-Borm, Schwienbacher, et al., 2018). Nevertheless, Crowdcube is one of the world's largest and most trusted EBC platforms and the UK has a reasonably well-developed EBC environment (Walthoff-Borm, Schwienbacher, et al., 2018). It is doubtful that only Crowdcube can have opportunity to project founders with finances and financing capacity, whereas other platforms also can attract potential companies to raise funding. Future research can expand the author's analysis by concentrating on EBC platforms developed in other nations and project founders

who launched campaigns to support their new ventures at different stages of the EBC phenomenon's growth (Piva & Rossi-Lamastra, 2018). It would be beneficial to investigate how country and platform-level features (including the various legal regimes used) impact project founders' quest for EBC, as well as to investigate more thoroughly how EBC effects company results in these contexts (Walthoff-Born, Schwienbacher, et al., 2018). The author hopes such issues above will be explored further as more data become available. Moreover, the author believes that the findings of this study have significant implications for crowdfunding platforms, project founders and investors.



## Appendix

Table 24 Correlation matrix.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1) ln_amount_riased	1.000									
(2) ln_NO_investors	0.733**	1.000								
(3) Age (in years)	0.405**	0.329**	1.000							
(4) Team Member	0.443**	0.348**	0.220**	1.000						
(5) Social media	0.283**	0.480**	0.141**	0.279**	1.000					
(6) ln_Target amount	0.937**	0.628**	0.374**	0.418**	0.247**	1.000				
(7) Equity offered	-0.090*	-0.172**	-0.185**	-0.116**	-0.132**	-0.126**	1.000			
(8) Investment with no voting right (Yes = 1; No = 0)	0.040	0.019	-0.009	0.032	-0.010	0.068	-0.070	1.000		
(9) Investment between £0 and £3000 (Yes = 1; No = 0)	-0.285**	-0.178**	-0.128**	-0.213**	-0.112**	-0.282**	0.121**	-0.236**	1.000	
(10) Investment between £3000 and £5000 (Yes = 1; No = 0)	-0.077	-0.033	-0.076	-0.047	0.040	-0.076	0.086*	-0.116**	-0.136**	1.000
(11) Investment between £5000 and £10000 (Yes = 1; No = 0)	-0.063	-0.084*	0.008	0.050	-0.044	-0.059	0.049	-0.267**	-0.311**	-0.153**
(12) Investment over £10000 (Yes = 1; No = 0)	0.327**	0.243**	0.156**	0.143**	0.130**	0.297**	-0.145**	-0.289**	-0.338**	-0.166**
(13) EIS_INCENTIVES = No	0.121**	0.168**	-0.017	0.065	0.147**	0.121**	-0.103*	0.018	0.029	-0.044
(14) EIS_INCENTIVES =Yes	-0.121**	-0.168**	0.017	-0.065	-0.147**	-0.121**	0.103*	-0.018	-0.029	0.044
(15) video= Yes	-0.074	-0.113**	-0.064	-0.022	-0.215**	-0.064	0.078	-0.070	0.041	-0.005
(16) video= No	0.074	0.113**	0.064	0.022	0.215**	0.064	-0.078	0.070	-0.041	0.005
(17) L2=other	-0.135**	-0.065	0.076	-0.113**	-0.080*	-0.147**	0.000	0.001	0.102*	0.012
(18) L2=London	0.135**	0.065	-0.076	0.113**	0.080*	0.147**	0.000	-0.001	-0.102*	-0.012

\*, \*\*, \*\*\* indicate significance at the 10%, 5%, and 1% levels, respectively.

	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
(11) Investment between £5000 and £10000 (Yes = 1; No = 0)	1.000							
(12) Investment over £10000 (Yes = 1; No = 0)	-0.382**	1.000						
(13) EIS_INCENTIVES = No	-0.045	0.026	1.000					
(14) EIS_INCENTIVES =Yes	0.045	-0.026	-1.000**	1.000				
(15) video= Yes	0.066	-0.041	-0.081*	0.081*	1.000			
(16) video= No	-0.066	0.041	0.081*	-0.081*	-1.000**	1.000		
(17) L2=other	0.026	-0.124**	0.012	-0.012	0.022	-0.022	1.000	
(18) L2=London	-0.026	0.124**	-0.012	0.012	-0.022	0.022	-1.000**	1.000

\*, \*\*, \*\*\* indicate significance at the 10%, 5%, and 1% levels, respectively.

## Research ethics approval

### Ethical Approval Outcome – Chair’s Action w/c 23.11.20

CBSADMIN

Wed 25/11/2020 12:33

To: Zhijian Zhong <z.zhong@chester.ac.uk>;

Cc: Wing Lam <w.lam@chester.ac.uk>;

Dear Zhijian,

Your application for Ethical Approval was reviewed on 23.11.20 – **Title: Equity crowdfunding as alternative source of venture capital**

I am pleased to inform that your application has been successful, you have been granted ethical approval and can proceed with your research.

Your lead supervisor is copied in to this email. I wish you every success for your research. Many thanks.

Kind regards,

Sandra Carr

Sandra Carr BA (Hons), MSc  
Project Administrator  
Postgraduate Office  
Chester Business School

Tel: 01244 511830 (direct)

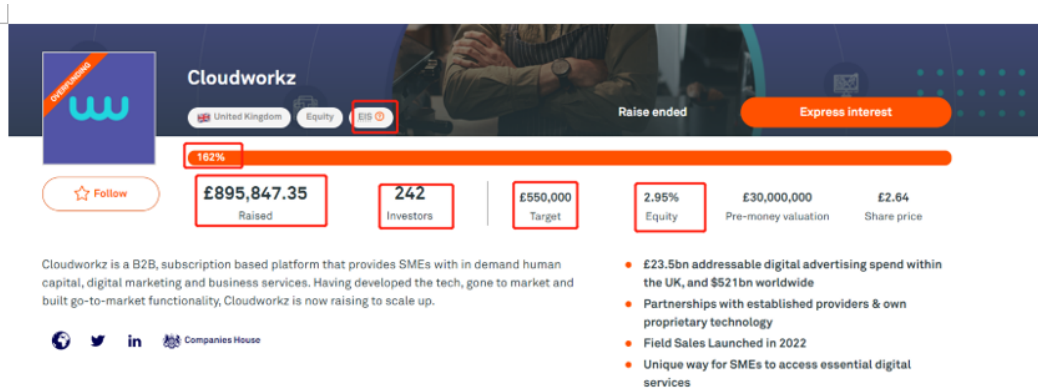
Tel: 01244 511000 (Switchboard - ask for Ext 1830)

**Postal address:** Chester Business School, Queen’s Park Campus, University of Chester, Parkgate Road, Chester, CH1 4BJ

**Office address:** Room CBH223, Bridge House, Queen’s Park Campus, University of Chester, Queen’s Park Road, Handbridge, Chester, CH4 7AD

*Figure 21 Research ethics approval*

## A summary of the project data collected from the website



## Share Types

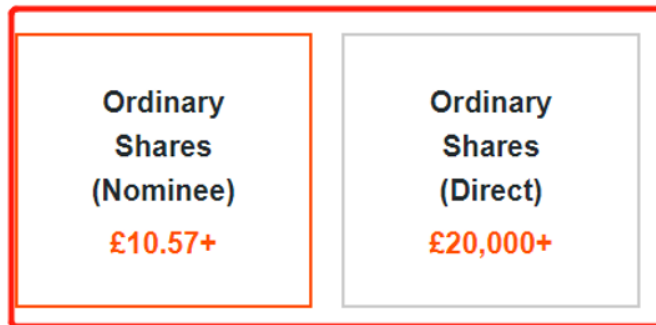


Figure 22 A summary of the project data collected from the website

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