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Role of Success Factors in Overfunding and Firm Performance in Equity Crowdfunding

by

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CERTIFICATE OF APPROVAL

This is to certify that the research work presented in the dissertation, entitled "**Role of Success Factors in Overfunding and Firm Performance in Equity Crowdfunding**" was conducted under the supervision of **Dr. Jaleel Ahmed Malik**. No part of this dissertation has been submitted anywhere else for any other degree. This dissertation is submitted to the **Department of Management Sciences, Capital University of Science and Technology** in partial fulfillment of the requirements for the degree of Doctor in Philosophy in the field of **Management Sciences.** The open defence of the dissertation was conducted on **January 26, 2024**.

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List of Publications

It is certified that following publications have been accepted out of the research work that has been carried out from this dissertation:-

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Abstract

Equity crowdfunding provides entrepreneurs and founders an opportunity to raise funds from large number of small investors instead of large amounts from small group of professional investors through fund raising campaigns on web-based platforms. Successful campaigns enable entrepreneurs to receive collected funds but in case of unsuccessful campaigns, entrepreneurs fail to receive any amount. This study identifies the factors in campaign success, role of success factors in overfunding, and post campaign firm performance in equity crowdfunding. This study also uncovers the role of successive equity crowdfunding round in developing investors' trust on crowdfunded firms. A sample size of 1081 campaigns for the period of 2011 to 2022 from UK based, world largest equity crowdfunding platform, Crowdcube, has been used. Quality signals and social network activities can reduce information asymmetry and influence investors' investment decision. Based on signaling theory, social network theory, and elaboration likelihood model, a research model is developed to conduct an empirical study in the context of equity crowdfunding. Ordinary least square (OLS) and logit regression analysis have been used to test hypotheses of the study. This study identifies number of campaign characteristics in predicting campaign success. Quality signals and social network activities have positive impact on overfunding but investors give more weightage to quality signals than electronic word of mouth when making investment decision in equity crowdfunding. Post campaign firm performance is the most important outcome for entrepreneurs and investors in equity crowdfunding. By measuring firm performance with firm survival and asset growth, findings show that campaign characteristics, directors' characteristics and social network activities have positive impact on firm survival and asset growth. Presence of success factors enhances success rate of crowdfunding campaign while the magnitude of these success factors increase the probability of post campaign business success. It is also concluded that both success factors almost equally influence the post campaign firm survival but quality signals are more important than electronic word of mouth in asset growth. This study suggests that successive round is a strong quality signal that has a positive impact on investors' trust and success factors in subsequent fund-raising. Increase in investors' trust due to successive round, increases the magnitude of

success factors that helps entrepreneurs in successful high fundraising in subsequent equity crowdfunding campaigns. Results of this study are novel contribution in the equity crowdfunding literature by identifying the factors in overfunding and post campaign firm performance. Uncovering the role of successive round as quality signal in high fund-raising is also novel contribution through quantitative analysis. Findings of this study have numerous practical and empirical contributions that are very helpful for entrepreneurs and investors in making investment decisions.

Keywords: Equity Crowdfunding, Overfunding, Campaign Characteristics, Directors' Information, Social Network Activities, Firm Performance, Firm Survival, Asset Growth, Successive Round.

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Abbreviations

B2B	Business to business
B2C	Business to consumer
CF	Crowdfunding
Dir	Directors
EBITDA	Earnings before interest, tax and depreciation/amortization
ECF	Equity crowdfunding
ELM	Elaboration likelihood model
FD	Foreign directors
Fintech	Financial technology
ID	Importance of documents
JOBS	Jumpstart our Business Startup
ND	Number of directors
NOL	Number of likes on social media
NSF	Number of social forums
UK	United Kingdom
USA	United States of America
VIF	Variance inflation factor

Chapter 1

Introduction

Entrepreneurs have been using crowdfunding to create ventures since last decade. New ventures usually face scarcity of early-stage financing that limits their ability to develop their knowledge and inventions into practical commercial applications (Widding et al., 2009; Lindstrom and Olofsson, 2001). Crowdfunding helps entrepreneurs to transform their entrepreneurial competencies into entrepreneurial reward (Nespoli et al., 2022). Asymmetric information between potential investors and entrepreneurs, uncertainty of investment returns, and lack of collateral are the causes of financial constraints that create funding gaps for new ventures and entrepreneurs (Lukkarinen and Schwienbacher, 2023; Bahlous-Boldi, 2022; Chod and Lyandres, 2021; Mochkabadi and Volkmann, 2020; Hervé et al., 2019; Short et al., 2017; Plummer et al., 2016; Hellmann, 2007; Carpenter and Petersen, 2002).

New ventures face difficulties in finding access to external financing in their early-stage of development due to the tendency of traditional investors (business angels, banks, and venture capitalist) to invest in less risky and cost-effective investments in established firms. In these circumstances, entrepreneurs usually finance their ventures by using own capital, collecting the capital from family and also from friends to meet early-startup cost (Dushnitsky and Shapira, 2010). Social network is a solution to early-stage financing gaps with an assumption that online social networks make the new ventures able to access a new source, crowdfunding (Zhang and Wong, 2008; Shane and Cable, 2002). Entrepreneurs digital reputation through social networks influences fundraising during a crowdfunding campaign (Liu et al.,

2021). Shiller (2013) concludes that new ventures can resolve their financial issues by an innovative method of securitization named as equity crowdfunding.

Crowdfunding, in recent years, has emerged as a valuable alternative source of financing for new ventures and entrepreneurs seeking for external funding (Guggenberger et al., 2023). It enables entrepreneurs to implement their ideas and innovations even though not having conventional financing resources such as banks and venture capital. The crowd can invest in business projects and ideas while entrepreneurs can raise funds via internet through crowdfunding platforms. Global crowdfunding has experienced accelerated growth since 2014. Crowdfunding market has been valued about 1.67 billion dollars in 2022. It is expected that crowdfunding market may grow at compound annual growth rate of 16.2% from 2023 to 2030 (Report, 2022). It is further expected that in 2030, the industry may grow to more than double once again, and it may on the way to a value of 5.53 billion dollars (Report, 2022). Although crowdfunding market is experiencing continuous rapid growth, still it is very challenging for a venture to achieve its funding target (Bao et al., 2022).

Crowdfunding works in the form of a web-based platform which allows entrepreneurs to pitch their ideas in the form of crowdfunding campaign with the information of team, equity offered, amount required for project, description of preparation, business plan, working address and team messages. Entrepreneurs invite the crowd of potential investors to invest in the business even with small amounts without any limitation on number of investors. Platform gives the specific number of days to each crowdfunding campaign to reach its requested target. Entrepreneurs also use their social networks and put their social media accounts with their ideas to attract their social media friends and followers for investment in their ideas. After the completion of fund raising duration, the funds are then transferred to entrepreneurs for starting business. There are different types of crowdfunding platforms working in different countries. There are reward-based platforms in which entrepreneurs offer product or service in form of pre-sale to the investor, in peer-to-peer lending platforms entrepreneurs offer interest on the amount on investors and in equity-based platform entrepreneurs offer shareholding in the business to the investors. Entrepreneurs and investors are connected through

web-based platform and entrepreneurs are bound to provide periodic information of the business to the investors through platform. Investors can participate in business decision-making, discussions and recommendations through platform where every project is placed with all information about the project.

Most recent studies in the context of crowdfunding are focusing on equity crowdfunding because of growing popularity and importance of this type of crowdfunding (Lukkarinen et al., 2022). Equity crowdfunding has become an alternative financing source to traditional equity financing such as venture capital and business angels (Ralcheva and Roosenboom, 2020). Equity crowdfunding is receiving more attention from policy makers and regulators because of its increasing popularity (Yasar, 2021). Lehner (2013) concludes that the number of crowdfunding platforms and initiatives are increasing rapidly causing scarcity of donation-based crowdfunding. It is one of the current financial innovations that help new ventures and entrepreneurs to raise capital (Yasar, 2021; Shiller, 2013). Equity crowdfunding has successfully established a niche in the market for startups and early-stage investments (Culkin et al., 2016). Recent researches show that equity crowdfunding is likely to pose a great challenge to venture capitalists and business angel financiers in near future (Vulkan et al., 2016). When there is an opportunity to become shareholder of a new venture, the donation-based crowdfunding is not an important alternative market. Practices show that most of the crowdfunding projects offer either financial reward (equity or profit sharing) or non-financial reward (finished products or services) making donation-based model less common in practices. It is experienced that reward-based crowdfunding limits the interaction between investors and ventures. It is also further noted that entrepreneurs need investment from investors instead of pre-sale when there is need of large capital. Under such circumstances, entrepreneurs find profit sharing crowdfunding model economically better. Schwienbacher and Larralde (2010) believe that equity crowdfunding will become inevitable.

Equity crowdfunding model is designed to create private limited companies with no limitation for the maximum number of investors. In traditional equity financing, public offering is done by public limited companies only. There is a limitation of

maximum fifty shareholders in case of private limited company. Equity crowdfunding is an opportunity for new ventures and entrepreneurs to attract investors from the crowd because of relatively small amounts are invested by a large number of investors that makes it easy for investors to take the risk of investment in new ventures. While in traditional equity financing, it is very much difficult for new ventures to attract the traditional fund providers, for example banks, venture capitalist, angel investors and large scale equity offering. Equity crowdfunding model works totally in informal way where no documentation takes place and transactions are done through internet while in equity financing there are number of formalities have to be taken, documentation has been taken place, and intermediaries are involved. Social network of entrepreneurs is also an influencing factor in equity crowdfunding where social media is used to attract the crowd for investment. Recent researches show that equity crowdfunding, in near future, is likely to pose a great challenge to venture capitalists and business angel financiers (Vulkan et al., 2016). However, as equity crowdfunding is new phenomena, the understanding about the nature of equity crowdfunding and its contributions to entrepreneurial activities is still limited.

This study uses data from equity crowdfunding platform, Crowdcube, from its beginning in 2011 to 2022. Multivariate regression analysis are used for empirical analysis. OLS and logit regressions are applied to conclude empirical results. Findings of the study reveal that campaign characteristics influence campaign success. Campaign characteristics also work as quality signals and result in overfunding in equity crowdfunding. Although campaign characteristics and funds raised in equity crowdfunding influence post campaign firm performance, but there is no mediation of crowdfunding between campaign characteristics and firm performance. It is explored that crowdfunded firms are performing better than non-crowdfunded firms based on post campaign firm survival. Furthermore, this study investigates the determinants of post campaign firm performance and suggests that campaign characteristics and social network activities influence post campaign firm performance positively and significantly. This study also uncovers that successive equity crowdfunding round is a good quality signal in developing investors' trust that results in high fund-raising in subsequent funding rounds.

1.1 Theoretical Background

Zhang and Wong (2008) and Shane and Cable (2002) consider the social network as a solution to early-stage financing gaps with an assumption that online social networks make the new venture able to access a new source named as crowdsourcing. Shiller (2013) suggests that to grow an economy successfully, the resources dispersed over millions of people may be activated and crowdsourcing is one of the means to do that. In the management and entrepreneurship studies in recent era, crowdsourcing has got so much interest by the researchers for enhancing the literature. According to Schwienbacher and Larralde (2010), crowdfunding is an open call, essentially by the use of internet, for the provision of financial resources either in the form of donations or in exchange for some reward or voting right in order to support initiatives for specific purposes. Crowdfunding is "referred to the efforts of entrepreneurial individuals and groups cultural, social and for profit to fund their ventures by drawing on relatively small contributions from a relatively large number of individuals using the internet without standard financial intermediaries", (Mollick, 2014).

Recent works focus upon that contribution of a crowd to an "open innovation", a combination of innovation concepts and open resources (Ordanini et al., 2011; Cumming and MacIntosh, 2006). The rising interest of the researchers in the study of crowdfunding contributes across a range of themes including the process, platforms, dynamics of operations (Mollick, 2014; Wieck et al., 2013; Ordanini et al., 2011) and the regulations to operate the relations between financial receiver and crowd funders (Bradford, 2014; Lehner, 2013; Stemler, 2013). Crowdfunding, an innovative development, has been sought to provide an opportunity to new ventures to utilize large dispersed audience, the crowd, to get contributions relatively small sums of money through an open call commonly by the use of internet (Belleflamme et al., 2015; Lehner, 2013; Sigar, 2012). Crowdfunding has been used for various purposes especially for donations in past. In recent era, this concept has been used for business purposes to mobilize the crowd to participate in new ventures and community projects.

Crowdfunding theory enables entrepreneurs to contract with customers in reward-based crowdfunding even before product development. It helps entrepreneur to ascertain demand uncertainty by using crowdfunding as a tool for screening of valuable projects. It may help entrepreneurs in improving investment decisions (Strausz, 2017). It has been used to fund the projects for research (Cameron et al., 2013; Loucks, 2013), films, game and musical projects (Weigmann, 2013; Sørensen, 2012), and also for new venture startup (Lehner, 2013; Ibrahim et al., 2012). Belleflamme et al. (2015) and Wieck et al. (2013) give the classification of crowdfunding into four groups: first is the donation-based crowd funding where crowd funders do not receive any reward; second is debt-based crowd funding occurs when crowd funders lend money and receive interest from founders; third one is reward-based crowd funding founders offer products or services to crowd funders in the form of pre-ordering; and the fourth one is equity-based crowdfunding that enables crowd funders for financial compensations in form of equity, revenue or profit sharing.

Lukkarinen et al. (2022); Yasar (2021); Shiller (2013) concludes that new ventures can resolve their financial issues by an innovative method of securitization named as equity crowdfunding. Lukkarinen et al. (2016) use crowdfunding theory to explore success drives in equity crowdfunding. The concept of crowdsourcing has been implemented by number of developed countries by making laws and regulations. For example in USA President Obama has signed JOBS (Jumpstart our Business Startup) act to allow equity crowdfunding as a legal activity. Similarly in UK, China and Europe crowdfunding is legal activity and is exercised in different forms. President Obama has signed the JOBS (Jumpstart our Business Startup) act and remarked on the equity crowdfunding that, "for startups and small businesses, this bill is a potential game changer" (Mollick, 2014). Schwienbacher and Larralde (2010) believe that equity crowdfunding will become inevitable. It is one of the current financial innovations to help the new ventures, entrepreneurs and simple projects to raise needed capital (Shiller, 2013). Equity crowdfunding allows all kind of investors, small or big, to become venture capitalists, there is need of high level regulation to control it (Mollick, 2014). Crowdfunding is different from traditional forms of financing in a way that contracts are standardized and simple,

less information is provided, large number of investors and a short fund raising process. Due to increase in efficiency of fund raising process from the entrepreneurs' perspective, it is not surprising that equity crowdfunding has successfully gathered such momentum in recent years (Vulkan et al., 2016). Equity crowdfunding is different from traditional equity financing in number of ways. Instead of offering shares to investors through traditional financial intermediaries, equity crowdfunding offers ownership in the business directly to the crowd of potential investors through internet only by using an equity platform.

Signaling theory has been used to study the impact of campaign characteristics, entrepreneurs' information cascade, social network activities, investors' response to online investment opportunities, online updates during the campaign, and textual information on campaign success, overfunding, firm performance, and subsequent crowdfunding rounds. In order to reduce information asymmetry between entrepreneurs and potential investors, firms seeking crowdfunding, use quality cues to signal the potential investors about the quality of the project (Sendra-Pons et al., 2023; Huang et al., 2022; Kleinert et al., 2022; Chakraborty and Swinney, 2021; Johan and Zhang, 2020; Bapna, 2019; Ahlers et al., 2015). Cholakova and Clarysse (2015) show that financial motivation plays primary role in both equity investing and reward-based pledging in crowdfunding campaigns rather than nonfinancial motivations like belonging to a community, supporting ideas or helping others. It means that the financial reward is the primary motivator behind individual's decision to pledge while the role of nonfinancial motivation is only secondary. It is observed that entrepreneurs who sell smaller fraction of their companies at listing and has more social capital, have higher probability for a successful campaign (Vismara, 2016). There is positive significant effect of posting an update on the number of investments and amount of investment (Block et al., 2018). It is also noted that where an update is in easier language, it increases crowd participation.

It is further observed that an update about new development of the startup like new funding, cooperation project and business development, has a positive impact on equity crowdfunding (Block et al., 2018). Walthoff-Borm et al. (2018), through empirical evidence, explore about the firms listed on equity crowdfunding

platforms that equity crowdfunding may be a last resort for those firms facing less profitability, excessive debt levels and more intangible assets making them unable to find traditional financiers.

Investors' expertise in picking an equity crowdfunding is explained more by their learned skills and financial solidity than the investors' demographics. Individual with lesser investment experience but with higher level of education and working status goes for more diversification and spreads risk when investing in equity crowdfunding projects (Joo Kitano, 2017).

There is a significant role of information cascade in the success of a crowdfunding campaign. Public profile of the investors plays an important role in increasing the appeal of the offer among early investors. Early investors in turn attract the late investors (Signori and Vismara, 2016). Crowdfunding platforms must work to reduce information asymmetry between investors and companies.

Elaboration likelihood model (ELM) explains the impact of online information on investing decision of the funders in crowdfunding. This is a major theoretical model which is used in online behavior research (Cheng and Ho, 2015; Ho and Bodoff, 2014; Shih et al., 2013; Lee and Youn, 2009; Chu and Kamal, 2008). Information about product quality and its specification is classified as central route while online likes and comments are the peripheral route. These two routes of ELM have been studied in context of online purchasing. Few studies have explored the effect of these two routes on decision to invest in reward-based crowdfunding (Bi et al., 2017). This study examines impact of quality signals (central route) and social network activities (peripheral route) of ELM on overfunding in the context of equity crowdfunding.

Entrepreneurs who are possessing high social capital, have high probability of crowdfunding success (Hornuf et al., 2022; Johan and Zhang, 2020; Hornuf and Schwienbacher, 2018; Vismara, 2018a). Leyden et al. (2014) explore the role of social aspect of entrepreneurship in successful fund raising. Social networks are important in promoting innovations and also in reducing uncertainty thus, increase the probability of entrepreneurial success (Leyden et al., 2014). Vismara (2016) extends the social network theory to uncover the role of entrepreneurs' social networks in crowdfunding campaign success. Social networks help entrepreneurs in reducing

uncertainty and in attracting more investors (Lukkarinen and Schwienbacher, 2023; Olsson, 2023; Hornuf et al., 2022; Lukkarinen et al., 2016; Ahlers et al., 2015). Social networks increase the likelihood of fund raising in a crowdfunding campaign that results in high probability of entrepreneurial success in equity crowdfunding (Vismara, 2016).

Our results show that campaign characteristics, directors' information and social network activities impact on overfunding by influencing investors' investment decision. But regression analysis show that quality signals (campaign characteristics and directors' information) predict overfunding more than electronic word of mouth (social network activities). It means investors in equity crowdfunding give more weightage to quality signals than electronic word of mouth when take investment decision. But moderating role of social networks activities in overfunding is positive and significant. Success factors in a campaign not only play important role in successful fund raising but also increase probability of post campaign success. Presence of success factors enhances success rate of crowdfunding campaign while the magnitude of these success factors increase the probability of post campaign business success. Increase in the magnitude of quality signals (campaign and directors' characteristics) and in electronic word of mouth (social network activities) increase the probability that a firm remain in active business trading. It is also concluded that both success factors are almost equally influence post campaign firm survival but quality signals are more important than electronic word of mouth in post campaign asset growth.

Successive round in equity crowdfunding is perceived as quality signal by potential investors because researches suggest that subsequent funding round is a good predictor of post campaign firm survival. Results of this study suggest that successive round is a strong quality signal that has a positive and significant impact on investors' trust and success factors in subsequent fund raising. It helps entrepreneurs in successful high fundraising in subsequent equity crowdfunding campaigns. Successive round helps firms to meet high funding targets and in achieving high overfunding that is most important desire of entrepreneurs. Successive round not only attracts crowd investors but also professional investors like venture capitals

and angel investors. That is why with an increase in number of successive rounds, there are increase in number of investors and largest investment.

1.2 Gap Analysis

Crowdfunding is an emerging phenomenon for funding new ventures since last decade. It is still uncommon and recognized as legal activity in few developed countries to mobilize the masses to participate in business generating activities through internet. Despite the fact that it range from small projects to entrepreneur seeking hundreds of thousands of dollar for a new venture, billions of dollars spent by millions of people, and large scale regulations by different countries to encourage crowdfunding, there is lack of academic knowledge even about the dynamics of crowdfunding. There is very little research on the dynamics of successful crowdfunding as well as use and distribution of crowdfunding mechanism. Since last few years, the research scholars have been paying attention to this novel field due to its popularity in practice. The major portion of the literature in the context of crowdfunding is qualitative in nature and a very little portion is of quantitative research due to the novelty of the area and unavailability of quantitative data about ongoing crowdfunding campaigns. Previous researches focus on defining, explaining and exploring success factors in crowdfunding. Literature in crowdfunding is lacking in empirical research, especially in the context of equity crowdfunding (Caputo et al., 2022; De Crescenzo et al., 2020; Mochkabadi and Volkmann, 2020).

There are only few researches in the context of equity crowdfunding which is an acceleratory growing capital market and is considered to pose a great challenge to venture capital in near future. It is therefore much needed to explore this growing area of equity crowdfunding for enhancing the literature quantitatively. Literature is lacking in explaining the influencing factors behind a successful campaign in equity crowdfunding as well as the factors appealing the investors to invest in a campaign that has already reached to its target. Some factors are studied in the context of reward-based crowdfunding for the success or failure of crowdfunding campaigns such as equity offered, largest investment, target range, provision of documents, video messages, pictures of the team, updates, industry types etc. There

are several factors studied in different form of crowdfunding are previous experience of entrepreneurs (Lichtig, 2015), type of the project (Belleflamme et al., 2010), social network size, project quality, geography and funding goal (Mollick, 2014). Lukkarinen and Schwienbacher (2023) identifies some campaign characteristics in predicting equity crowdfunding campaign success and gives the directions for future research to identify more success factors with replication of the identified factors on larger sample from different platform. So these factors must be studied in context of equity crowdfunding.

Crowdcube platform works on all-or-nothing model that means only successful campaigns receive funds from investors. Campaigns that reach the target are declared successful campaigns otherwise unsuccessful. When investors still offer their funds to a successful campaign, it is then declared as overfunded campaign. The literature is lacking about the influencing factors appealing the investors to invest in a campaign that has already reached to its target. Empirical evidence shows that some campaigns exhibit greater level of overfunding (Martínez-Gómez et al., 2020). Due to all-or-nothing model of Crowdcube, target setting is a challenging task for entrepreneurs because in case of unsuccessful campaign, entrepreneurs receive no funds. There is negative relationship between high funding target and success but positive impact of geography on campaign success (Mollick, 2014). As small funding targets increase chances of success but projects face shortage of startup cost. In these circumstances, overfunding plays important role for entrepreneurs in raising more funds to meet startup cost.

Entrepreneurs not only accept overfunding but also use it as quality signal to attract more investors. Overfunding helps entrepreneurs in collecting additional funds for projects. That is why entrepreneurs announce overfunding as their success on social media accounts and use overfunding as influencing factor to attract more investors. So, a question arises, what are the factors that convert some successful campaigns into overfunded campaigns? These factors may help out entrepreneurs to attract investors and to get their campaigns reasonably overfunded. This study investigates role of characteristics of successful campaigns directors' information and social network activities in determining right-skewed distribution of fund raised beyond the target. There are some researches on overfunding by declaring overfunding

as a phenomenon of crowdfunding (Martínez-Gómez et al., 2020; Gabison, 2014; Mollick, 2014; Frydrych et al., 2014). Koch and Siering (2015) identify campaign characteristics that influence on overfunding in reward-based crowdfunding. Li et al. (2022) study impact of initial herd on overfunding in equity crowdfunding. Martínez-Gómez et al. (2020) study role of success factors in overfunding in equity crowdfunding. In order to raise money successfully through equity crowdfunding platform, entrepreneurs and firms find the ways to signal the value and potential of the project to small investors. Research on crowdfunding and entrepreneurial fund-raising uses signaling theory to explore relationship between investors and entrepreneurs (Di Pietro et al., 2023; Bapna, 2019; Block et al., 2018; Vismara, 2018b; Plummer et al., 2016; Ahlers et al., 2015). Signals of quality positively influence investing decision of the funder (Bi et al., 2017). Costly signals increase amount raised in equity crowdfunding (Di Pietro et al., 2023). Thus, magnitude of these quality signals may lead the campaign to overfunding success.

Equity crowdfunding helps to create new ventures and the existing literature talks about, how to generate capital, launch new ventures, attract more investors, make the campaign successful etc. but does not talk about the performance of the equity crowdfunded firms after successful campaigns. Walthoff-Borm et al. (2018) identify that equity crowdfunding is the last resort for the companies facing low profit margin, high debt and less internal funds. Signori and Vismara (2016) attempt to measure the return in equity crowdfunding and conclude that investor can earn up to 371% if able to pick best equity offering. They also identify only 10% chances for a firm to fail in equity crowdfunding. There are risks to investment in equity crowdfunding campaigns like in any other form of investment and equity crowdfunding investors keep in mind that not all business are successful. As it has been reported that on average 21% of crowdfunded businesses have collapsed (Crowdcube, 2023), thus, in the case of failure, crowdfunding investors may not receive their money back. There is a big research gap to study the performance of the equity crowdfunded firms. It is because the performance is evaluated after considerable time. Now the time is to evaluate the performance of the crowdfunded firms because there are number of firms with an average age of five to ten years. Reasonable data is now available to evaluate the performance of the crowdfunded

firm quantitatively and testing the crowdfunding theory empirically. So a question arises, what are the factors that increase the probability of post campaign firm performance?

Factors that predict successful campaigns are the first information to investors for business assessment. Whether these factors play their role only in successful fund-raising or they can predict post campaign firm performance? Firm performance in the context of equity crowdfunding can be captured with post campaign firm survival (Kassim et al., 2020; Brown et al., 2019; Walthoff-Borm et al., 2018) and asset growth (Eldridge et al., 2021; Décarre and Wetterhag, 2014). This study investigates role of success factors in post campaign firm survival and asset growth to explore firm performance after successful equity crowdfunding campaign. These factors help out investors to forecast success chances of a firm after successful funding campaign and to choose more secure business for their investments. This study also explores the mediating role of crowdfunding between crowdfunding characteristics and performance to identify whether performance of firms validate crowdfunding theory or not. The performance of the crowdfunded firms is also compared with performance of non-crowdfunded firms for validating the role of crowdfunding in firm performance.

It is noted that in the presence of information asymmetries, entrepreneurs still have been able in attracting substantial funding through crowdfunding platforms. Investors read some information as attributes to signals of quality while deciding to invest because all ventures do not receive funding. Previous theoretical and empirical studies on crowdfunding are discussed comprehensively to find out a research gap. Early bird investors attract large number of late investors (Vismara, 2018a) while crowdfunding performances impact venture capital firms' screening and investing decisions (Drover et al., 2017). Past successful equity crowdfunding campaign helps firms in obtaining funds from venture capital (Butticè et al., 2020; Signori and Vismara, 2018). It means that past successful equity crowdfunding campaign can lower information asymmetry and increase investors' trust on subsequent equity crowdfunding campaign. Thus, increase in investors' trust may lead to investment decisions in subsequent equity crowdfunding campaign that may result in high fund raising.

There are also supporting findings from the study of Butticè et al. (2020) that successful equity crowdfunding campaigns have more probability of attracting investments from venture capital firms than other sources of funding. However these studies conclude the post campaign impact of successful equity crowdfunding campaign in receiving investments from venture capital firms and also from investors in subsequent financing round in equity crowdfunding only with minimum number of variables. This study aims to fill this research gap empirically by exploring impact of successive equity crowdfunding campaigns as quality signal on investors' trust that helps firms in meeting high funding targets, campaign success with low level of equity, high fund raising then targets, higher rate of overfunding, in attracting large number of investors and in receiving large single investments from professional investors.

1.3 Research Problem

Scholars always have shown great interest to identify leading factors to successful fundraising for entrepreneurial ventures (Dushnitsky and Shapira, 2010; Kirsch et al., 2009; Baum and Silverman, 2004; Shane and Cable, 2002; MacMillan et al., 1985). Signals of quality, social network size and geography of the ventures can play important role in crowdfunding campaigns (Mollick, 2014; Chen et al., 2009). Online information (e-word of mouth) for example likes and comments on social media, are significant factors to influence investors' decision positively in reward-based crowdfunding (Bi et al., 2017). It is observed that number of campaigns successfully raise funds but some campaigns fail. Event after reaching targets successfully, many crowdfunding campaigns are overfunded even twice or thrice to the amount requested. So why some campaigns overfunded twice or even thrice to the amount requested?

Crowdfunding theory states that the involvement of large number of investors creates a large pool of expertise and skills to run the firms that also work as a tool of advertisement. These factors are helpful for the better performance of the crowdfunded firms. Equity crowdfunding helps firms to attract investments for business development through communicating campaign characteristics as quality

signals. Investors make investment decisions by evaluating campaign characteristics and quality signals of campaigns. It means that campaign characteristics attract funds through crowdfunding and firms use these funds to perform better in business trading. Is there any mediating role of crowdfunding between campaign characteristics and post campaign firm performance? Is performance of crowdfunded firm is better than performance of non-crowdfunded firm?

Some firms dissolve in some years after successful fund-raising through equity crowdfunding while other firms perform well and continue acceleratory growth. How is the post campaign performance of a crowdfunded firm? Is crowdfunding theory testable empirically? The literature is silent to answer this question because of novel field of the study and firms are in startup stat. But now firms are of the age of almost five to ten years and there are considerable numbers of firms funded through equity crowdfunding, the performance should be explored for future decision making to invest through equity crowdfunding. It can be deducted by observing the popularity and acceleratory growth of equity crowdfunding that it will pose a great challenge to venture capital in near future (Vulkan et al., 2016).

It is observed that in subsequent equity crowdfunding campaigns are successful in achieving high funding targets, overfunding, number of investors, large investments from professional investors even with small number of success factors and lower level of equity participation. Why this occurs in successive crowdfunding round; which is not observed in first crowdfunding round without sufficient number of success factors and founders' equity participation? It may be because past achievement is costly signal for investors that increase amount raised in equity crowdfunding (Di Pietro et al., 2023). Past successful equity crowdfunding campaign helps firms in obtaining funds from venture capital (Butticè et al., 2020; Signori and Vismara, 2018). Companies with successful equity crowdfunding campaigns have higher probability of attracting successive financing from crowd investors (Signori and Vismara, 2018). So, it means successive equity crowdfunding campaign may work as strong quality signal that can enhance investors' trust on firm and may results in high target success, high fund-raising, high overfunding, large number of investors and largest investments from venture capital with low level of equity in subsequent equity crowdfunding round.

1.4 Research Objectives

In general, this study aims to explore the determinants of crowdfunding campaign success, role of success factors in overfunding of a campaign, and post campaign role of success factors in predicting post campaign firm performance in equity crowdfunding. This work also uncovers impact of successive round on investors' trust. In particular, this study has following research objectives:

i To identify the factors behind success of an equity crowdfunding campaign.

ii To identify the factors that influence the investors' investing decisions to invest in equity crowdfunding campaign that has already reached to its target amount but overfunded sometime twice and even thrice.

iii To uncover the mediating role of crowdfunding between campaign characteristics and firm performance.

iv To make a comparison between firm performances of crowdfunded and non-crowdfunded firms to ensure that crowdfunding characteristics lead to better performance.

v To identify factors in predicting the performance of the firms funded through equity crowdfunding.

vi To uncover the impact of successive equity crowdfunding campaign on target, funds-raised, overfunding, equity, number of investors and largest investment (investors' trust).

1.5 Questions of the Study

Existing literature reveals that success factors in crowdfunding campaign are interesting for entrepreneurs seeking crowdfunding through any crowdfunding platform. These success factors become more important when investors want to invest in equity crowdfunding. Some of these success factors may lead the campaigns to overfunding. Thus, the role of these success factors in campaign

success and overfunding is very important for entrepreneurs and investors. It is very important to explore the performance because of the whole purpose of crowdfunding mechanism is to mobilize the crowd for economic activities and the performance of firms proof the fruitfulness of this economic activity. It is further important to uncover the impact of social network activities on overfunding and post campaign firm performance because this is the age of digital world where social media is widely used to promote business activities. It is also important to uncover the role of successive equity crowdfunding campaign as quality signal that results in attracting more number of investors and successfully reaching high targets.

The above reasons justify the need of further investigation on the topics in the context of equity crowdfunding. This study has the following research questions to be addressed theoretically and empirically by using the data from equity crowdfunding platform;

1 What are the determinant of crowdfunding campaign success in equity crowdfunding campaign?

2 What are the factors that appeal the investors to invest in overfunded equity crowdfunding campaigns?

3 Does the crowdfunding mediate relationship between crowdfunding campaign characteristics and firm performance?

3a Do campaign characteristics positively influence firm performance?

3b Do campaign characteristics positively influence crowdfunding fund raising?

3c Do funds through equity crowdfunding positively influence the equity crowdfunded firm performance?

3d Do crowdfunding campaign characteristics and crowdfunding positively influence on firm performance?

4 Does the performances of crowdfunded firms better than performances of non-crowdfunded firms?

5 What are the success factors that can predict post campaign performances of the equity crowdfunded firms?

5a Do quality signals increase the probability of post campaign firm survival?

5b Do quality signals influence on post campaign asset growth?

6 What are the directors' characteristics that can predict post campaign performances of the equity crowdfunded firms?

6a Do directors' characteristics increase the probability of post campaign firm survival?

6b Do directors' characteristics influence on post campaign asset growth?

7 What is the impact of using social network accounts by the firms on the probability of post campaign firm performance?

7a Does the use of social networks increase the probability of post campaign firm survival?

7b Does the use of social networks influence on post campaign asset growth?

8 What is the impact of successive equity crowdfunding campaign as quality signal to develop trust between entrepreneurs and investors?

8a Does the successive equity crowdfunding campaigns increase the probability of achieving high funding target?

8b Does the successive equity crowdfunding campaign increase the probability of high fund raising against the target?

8c Does the successive equity crowdfunding campaign influence on overfunding?

8d Does the successive equity crowdfunding campaign lead to successful campaign with low level of equity offering by entrepreneurs?

8e Does the successive equity crowdfunding campaign influence on number of investors?

8f Does the successive equity crowdfunding campaign influence on single largest investment?

1.6 Significance of the Study

This study enhances the literature quantitatively through empirical evidence from the data available on equity crowdfunding platforms. This research work enhances the entrepreneurs understanding about the factors that enable them to launch a successful campaign and also investors to seek for a campaign that has potential of success. This study enhances the entrepreneurs understanding about the factors that enable them to get overfunded success in equity crowdfunding campaigns. This study is an important contribution in the literature by analyzing post campaign firm performance and opens a new avenue of research in the field of equity crowdfunding. It enables investors to evaluate campaigns and choose those having potential of post campaign performance by remaining active in business trading and post campaign asset growth.

This study also enhances literature about the impact of successive round on investors' trust and on the magnitude of success factors. It enriches the literature by studying success factors as dependent variables and provides empirical evidences of the impact of successive rounds on investors' trust and success factors. This is also a novel contribution in literature by exploring the role of successive round in equity crowdfunding as quality signal for potential investors. This study helps entrepreneurs to use successive round as strong quality signal that has positive and significant impact on investors' trust. Increase in investors' trust results in high fund-raising, high overfunding and large number of investors in subsequent equity crowdfunding campaigns..

1.7 Study Plan

The remaining part of this study is organized as follows: Chapter 2 explains the literature review and hypothesis development; Chapter 3 provides sample construction, definitions of all variables, research methodology, and econometric specification; Chapter 4 presents descriptive analysis, correlations analysis, empirical results and discussion; and Chapter 5 conclusion, policy implication, empirical and practical contributions of the study, limitations of the study and future research directions.

1.8 Summary of the Chapter

This chapter explains crowdfunding and the growing popularity of equity crowdfunding. The chapter also explains how equity crowdfunding has been becoming an alternative source of funding to traditional financing. Gap analysis has been done to identify gap in literature and research objectives are identified. Research questions are formulated on the bases of research objectives. Significant of the study, its empirical and practical contributions are explained.The chapter ends with study plan to be followed in this dissertation.

Chapter 2

Literature and Hypothesis Development

Crowdfunding has been emerged as an alternative financing method from micro financing and from a wider concept of crowdsourcing. Crowdfunding is an emerging field of study and the complete definitions are arbitrarily limited because the popular and academic conceptions of crowdfunding are in a state of evolutionary flux. Schwienbacher and Larralde (2010) define Crowdfunding as, " an open call, essentially through the internet, for the provision of financial resources either in the form of donations or in exchange for some form of reward and/or voting rights in order to support initiatives for specific purposes." Lin et al. (2013) explain that even expansive, this definition potentially excludes examples that are labeled as crowdfunding by scholars in various fields including internet-based peer-to-peer lending. Mollick (2014) defines that, "Crowdfunding refers to the efforts by entrepreneurial individuals and groups, cultural, social, and for profit, to fund their ventures by drawing on relatively small contributions from a relatively large number of individuals using the internet, without standard financial intermediaries". Belleflamme et al. (2013) define crowdfunding as a method to use the broader crowd for ideas and capital in order to develop ventures for corporate actions and future earnings.

Belleflamme et al. (2010) describe that crowdfunding is an open call to the crowd of potential investors for making it possible for the companies to receive funds

in exchange for future products, services or equity shares. Steigenberger (2017) and Ahlers et al. (2015) give two main types of crowdfunding; non-financial crowdfunding and financial crowdfunding. In the non-financial crowdfunding there are two methods, donation-based and reward-based crowdfunding. In donation-based crowdfunding the purpose of crowd of investors to aid a company is donation to the company for any social cause while in reward-based crowdfunding the crowd of investors receives rewards in the form of either products or services. Financial crowdfunding includes debt crowdfunding and equity crowdfunding. Here, interest of investors is to fund a company which is seeking funding with a goal to make financial profit. In debt crowdfunding investors give loans to the company in exchange of interest while in equity crowdfunding investors invest in company for equity shares to receive financial profit.

Schwienbacher and Larralde (2010) suggest that crowdfunding is a viable form of funding for entrepreneurial seed capital. Projects may have a wide range of goals through crowdfunding unlike other forms of venture financing. Chen et al. (2009) and Ferrary and Granovetter (2009) evidence that early-stage investors contribute much more in new venture with governance, advice and prestige than simply funding. Mollick (2014) suggests that crowdfunding can be used to demonstrate demand for a proposed product that can lead the firm to get funds from traditional financing if finds more demand from the crowd. In case of a little demand from the crowd, it helps the founder to fail quickly without any additional investment or efforts. Crowdfunding can also be used for marketing of new projects and to create interest in the projects in early-stages of development. Lin and Viswanathan (2013) explain that crowdfunding platforms are used for crowdfunding which are internet-based platforms to link founders and funders for financing a particular project by many funders. Ferrary and Granovetter (2009) argue that it is the common characteristics of all crowdfunding platforms that founders come here with an aim to have access to additional funding sources.

Lambert et al. (2014) describe that there are different features of the projects and heterogeneous preferences of the funders over these projects, so the crowdfunding platform is a place to provide a matching service between two sides of the market. Di Pietro et al. (2023); Guggenberger et al. (2023); Valenza et al. (2023) consider

investment-based platforms crowdfunding platforms are alternative financial investment instrument for financing startups and small and medium enterprises. Hornuf and Schwienbacher (2018); Block et al. (2018) describe that investment-based platforms include equity-based crowdfunding platforms where founders offer equity to funder, reward-based crowdfunding platforms where founders offer royalty for the funds in form of products or services, and lending-based crowdfunding platforms where funders advance a loan to fundraiser in exchange of interest rate.

The factors that drive entrepreneurial ventures to successful fundraising have been of the great interest of scholars especially in the venture capital context (Dushnitsky and Shapira, 2010; Kirsch et al., 2009; Baum and Silverman, 2004; Shane and Cable, 2002; MacMillan et al., 1985). The success factors are studied in two parts; success factors in the preparation of crowdfunding project and success factors during a crowdfunding project. Some factors are identified in the preparation of the projects that lead to success. Investors make decisions on partial information about a particular venture because of uncertainty of investment. Uncertain and unreliable data about a new venture is a potential signal of quality in the selection process. Cardon et al. (2009) and Chen et al. (2009) identify several key quality signals that can lead the venture to traditional face to face investment setting including the quality of preparation that an aspiring entrepreneurial demonstrate. Lukkarinen and Schwienbacher (2023); Olsson (2023); Sendra-Pons et al. (2023); Huang et al. (2022) suggest that signals give insight about the quality of underlying projects as high quality projects are assumed to receive more funds. They use signaling theory to explore the impact quality signals on crowdfunding success and also identify the significant quality ques in subsequent fund-raising success. Kleinert et al. (2022); Chakraborty and Swinney (2021) observe the significant role of private quality information as quality signal in successful raising high targets in reward-based crowdfunding.

Johan and Zhang (2020) explores the impact of accounting information on investors' investment decision making and finds positive impact of previous accounting information in high capital-raising. Bapna (2019) studies the impact of product certification, social proofs, and prominent customers on investors' investment decision in equity crowdfunding and finds positive impact of these quality signals

on investors' investment decision. Wheat et al. (2013) has identified some success factors during the crowdfunding projects that include web presence, updates, number and amount of backers, number of comments on social media and reward and incentives. Mollick (2014) considers video as an important signal for the preparation and finds an association between provision of video and the number of backers to the project. Zheng et al. (2014) suggest that the use of information through different media improves the understanding between founders and funders. Boeuf et al. (2014) conclude positive impact of entrepreneurs (project owner) personal information on number of backers in a project. Lambert et al. (2014) finds important role of social network and web in facilitating founders to access funders. Bi et al. (2017) have reported that larger word counts in introduction and larger video counts are associated with reward-based crowdfunding as these make the funder to feel the project of higher quality. Online reviews and likes make the funder to feel the project of having good electronic word of mouth.

2.1 Equity Crowdfunding

In previous portion, the term crowdfunding is explained and its various types are defined in detail. Previous researches are mainly theoretical because of novel field of study and less availability of empirical data. But some researches are empirical with limitation of limited data. The focus of previous researches is on defining, explaining and exploring crowdfunding, its types and success factors. The main portion of empirical researches is on reward-based crowdfunding and its success factors. There are few researches on equity crowdfunding and a few researches empirically explain the success factors and more about this equity crowdfunding. The focus of this study is to explore the factors behind a successful campaign, role of success factors in overfunding, mediating role of crowdfunding in firm performance, post campaign firm performance predictors, and role of subsequent equity crowdfunding campaign as quality signal to investors in equity crowdfunding.

According to Walthoff-Borm et al. (2018); Hornuf and Schwienbacher (2018) equity crowdfunding is a new tool that enables entrepreneurs to present their ventures through a crowdfunding campaign to a crowd of potential investors. Guggenberger

et al. (2023); Lukkarinen and Schwienbacher (2023) observe that crowd of potential investors make investment decisions on the basis of information disclosed by entrepreneurs on equity crowdfunding platforms. Rostamkalaei and Freel (2023); Zhang et al. (2023); Valenza et al. (2023); Vismara (2022) have investigated the impact of information disclosed by entrepreneurs for investors to make investment decision and concluded that information provided by entrepreneurs works as quality signals and positively influence investors' investment decision. When there is an opportunity to become shareholders of new ventures, the donation-based crowdfunding may not be an important alternative market for a crowd. It is observed in recent trends that donation-based crowdfunding models have become less common and now crowdfunding projects offer either reward (products or services) or equity share.

Lambert et al. (2014) observe that equity crowdfunding is best choice when there are large capital requirements. Belleflamme et al. (2015) think that investment-based crowdfunding platforms provide a hope to new ventures and firms to have an access to larger set of funders instead of using traditional financing instruments, for example, banks and venture capitalist. Shiller (2013) suggests that equity crowdfunding is an important financial innovation that allows new ventures and simple projects to raise required capital. Schwienbacher and Larralde (2010) feel that equity crowdfunding will become more inevitable in future. Schwartz (2012) describes that an equity crowdfunding campaign can reach a crowd of potential investors easily and quickly because of basing upon internet. While in traditional financiers few institutions or a few experienced people play their role in fund-raising. As in traditional financiers there are few large investors play in the business, each of them has to face high risk and companies have to pay high cost. So there is significantly less cost and risk to each investor in the project than in traditional financing models (Ordanini et al., 2011).

Caputo et al. (2022) considers equity crowdfunding is the most popular form of crowdfunding even forty times more popular than reward-based or donation-based crowdfunding. Equity crowdfunding has distinct characteristics that make it a distinct form of crowdfunding from other forms of crowdfunding. However there are some similarities in the features of equity crowdfunding and reward-based

crowdfunding. This overlap of some features helps the researcher to study equity crowdfunding by using the literature from neighboring form of crowdfunding. Dorff (2013) uses the approach of leveraging from neighboring literature for further study due to lack of studies in the area of equity crowdfunding. By using this approach, possible success factors for equity crowdfunding are conceptualized through the success factors that are identified for other forms of crowdfunding.

Lukkarinen et al. (2016) describe that existing literature identifies three categories of success factors in other forms of crowdfunding, campaign characteristics, network and understandability about the concept. Most of the studies are in the context of reward-based crowdfunding that identify the success factors for successful campaigns. Campaign characteristics include target amount, founders' equity, number of investors, number of followers, documents, largest investment, duration of campaign, industry of the project, founders' profile, idea, pre-money valuation, amount raised, pictures and videos about project. Network drivers to the success of the campaign include friend and family network, presence on social media, updates on social media, followers on social media, likes and comments about the project etc. Understandability about the business concept is also a success factor that means the consumer oriented project are more understandable to investors than business oriented project. It also include easy and understandable business project, easy language etc.

Theoretical and empirical studies on crowdfunding are discussed comprehensively to find out a research gap. The focus of previous researches is on defining, explaining and exploring types and success factors in crowdfunding. Literature in crowdfunding is lacking in empirical research especially in the context of equity crowdfunding (Caputo et al., 2022; De Crescenzo et al., 2020; Mochkabadi and Volkmann, 2020). The focus of this study is to fill empirical research gap by exploring factors that can predict campaign success, role of success factors in overfunding, mediation in firm performance, performance comparison between crowdfunded and non-crowdfunded firm, role of success factors in post campaign firm survival and role of successive crowdfunding round as quality signal in the context of equity crowdfunding. This study develops an empirical model on the bases of ELM in equity crowdfunding. Crowdfunding has been emerged as an alternative financing method from micro

financing and from the concept of crowdsourcing. Mollick (2014) suggests the companies and ventures when in start-up stage, to use the tool of crowdfunding for generating funds. Small businesses are directly financed by large group of individuals (Crowd) with small amounts instead of traditional funding sources (business angel, banks and other investors). Culkin et al. (2016) conclude that equity crowdfunding has successfully established a niche in the market for startups and early-stage investments.

2.2 Signaling Theory and Equity Crowdfunding

Signaling theory has been used to study the impact of campaign characteristics, entrepreneurs' information cascade, social network activities, investors' response to online investment opportunities, online updates during the campaign, and textual information on campaign success, overfunding, firm performance, and subsequent crowdfunding rounds. In order to reduce information asymmetry between entrepreneurs and potential investors, firms seeking crowdfunding, use quality cues to signal the potential investors about the quality of the project (Sendra-Pons et al., 2023; Huang et al., 2022; Kleinert et al., 2022; Chakraborty and Swinney, 2021; Johan and Zhang, 2020; Bapna, 2019; Ahlers et al., 2015). Cumming and Johan (2013) and Connelly et al. (2011) consider that information asymmetry between entrepreneurs and investors, is a matter of concern in equity crowdfunding just like in conventional venture capital financing. Michael (2009); Backes-Gellner and Werner (2007); Busenitz et al. (2005) suggest that entrepreneurs have more knowledge about ventures' quality than the potential investors and this information asymmetry even more evident in the context of equity crowdfunding. It is because as compared to conventional financing, there are relatively small investors in equity crowdfunding who are less likely to have experience and skills in evaluating investment opportunities. In equity crowdfunding, even some high quality ventures may fail to obtain funding success because potential investors unable to evaluate venture true value.

Ahlers et al. (2015) reports that information asymmetries on equity crowdfunding platforms are relatively higher for equity crowdfunding ventures, because most

important things for early-stage investors is to gather information, monitor progress and provide inputs to ventures, but cost of these activities are distance sensitive in equity crowdfunding. It can be observed that after all in the presence of information asymmetries, entrepreneurs have been able in obtaining substantial funding through crowdfunding platforms such as Crowdcube, Seedrs, Kickstarter and ASSOB. It means investors have sought the ways to evaluate information provided on platform and to find out quality of listed ventures. Investors read some information as signals of quality and decide to invest in some ventures because all ventures do not receive funding. Mollick (2014) explains that entrepreneurs in equity crowdfunding make an appeal to general public via internet to invest in their ideas. Entrepreneurs thus need way to communicate investors about quality of venture with the help of quality signals in order to attract investors' attention (Sendra-Pons et al., 2023; Huang et al., 2022; Kleinert et al., 2022; Chakraborty and Swinney, 2021; Johan and Zhang, 2020; Bapna, 2019; Vismara, 2016; Ahlers et al., 2015; Mollick, 2014).

There are several key quality signals identified by researchers that can lead the venture to successful fund-raising. Cardon et al. (2009) and (Chen et al., 2009) identify the quality of preparation is significant in crowdfunding campaign success. Vismara (2016) explores the signaling impact of equity retention and social capital on investors' investment decision making. His study concludes that low equity retention and large size of social capital result in high fund-raising by positively influencing investors' investment decision. Ahlers et al. (2015) identifies the signaling in equity crowdfunding by exploring the role of human capital, social capital, intellectual capital and uncertainty in funding success. Results of his studies conclude positive and significant impact of human capital on funding success while negative significant impact of uncertainty on number of investors. Further that study concludes that social and intellectual capitals have little or no significant impact on funding success in equity crowdfunding.

Bapna (2019) has concluded that product certification, prominent customer and social capital are significant predictors in crowdfunding high fund-raising. Lim and Busenitz (2020); Bernstein et al. (2017) have reported that information about business team is good quality signal that can influence investors' investment decision positively and results in high fund-raising. Di Pietro et al. (2023) have explored the

role of costly and costless signals and concluded that costly signals (information about past achievements) are more significant in influencing investors' investment decision. Presence of quality signals lead campaigns to success but magnitude of these signals may lead campaigns to overfunding. It is because more explained and detailed quality signals can attract more investors and lead campaigns to overfunding. So these quality signals must be explored empirically to analyze their impact on overfunding in terms of their magnitude and size.

2.3 Elaboration Likelihood Model and Social - Network Theory

Entrepreneurs who are possessing high social capital, have high probability of crowdfunding success (Hornuf et al., 2022; Johan and Zhang, 2020; Hornuf and Schwienbacher, 2018; Vismara, 2018a). Leyden et al. (2014) explore the role of social aspect of entrepreneurship in successful fund raising. Social networks are important in promoting innovations and also in reducing uncertainty thus, increase the probability of entrepreneurial success (Leyden et al., 2014). Vismara (2016) extends the social network theory to uncover the role of entrepreneurs' social networks in crowdfunding campaign success. Social networks help entrepreneurs in reducing uncertainty and in attracting more investors (Lukkarinen and Schwienbacher, 2023; Olsson, 2023; Hornuf et al., 2022; Lukkarinen et al., 2016; Ahlers et al., 2015). Social networks increase the likelihood of fund raising in a crowdfunding campaign that results in high probability of entrepreneurial success in equity crowdfunding (Vismara, 2016). Social networks are important in promoting innovations and also in reducing uncertainty thus, increase the probability of entrepreneurial success (Lukkarinen and Schwienbacher, 2023; Olsson, 2023; Hornuf et al., 2022; Hornuf and Schwienbacher, 2018; Lukkarinen et al., 2016; Ahlers et al., 2015; Leyden et al., 2014). Social networks increase the likelihood of fund-raising in a crowdfunding campaign that results in high probability of entrepreneurial success in equity crowdfunding (Vismara, 2016). This study uses the signaling theory, elaboration likelihood model and social network theory for formulating research model to study role of success factors in equity crowdfunding.

The elaboration likelihood model (ELM) is used to study the impact of online information in crowdfunding. This is a major theoretical model which is used in online behavior research (Ho and Bodoff, 2014; Shih et al., 2013; Lee and Youn, 2009; Chu and Kamal, 2008). Cheng and Ho (2015) explains that there are two routes of ELM to study the influence of online information on investing decision of funders. Quality signal is classified as central route while electronic word of mouth is classified as peripheral route. Bi et al. (2017) have investigated role of quality signals and electronic word of mouth by using elaboration likelihood model in reward-based crowdfunding. They have concluded that larger word counts in idea description and pictures of team make the funder to feel the project of higher quality. Online reviews and likes make the projects of having good electronic word of mouth. Findings of their study show positive significant effect of quality signals and electronic word of mouth on crowdfunding fund-raising success in reward-based crowdfunding.

2.4 Determinants of Success of Crowdfunding-Campaign

The factors behind successful fund-raising have been of the great interest of researchers, entrepreneurs and investors, especially in the context of venture capital (Dushnitsky and Shapira, 2010; Kirsch et al., 2009; Baum and Silverman, 2004; Shane and Cable, 2002; MacMillan et al., 1985). Previous studies divide success factors in two parts including factors in the preparation of crowdfunding campaign and factors during a crowdfunding campaign after launching to end of duration. Some factors are identified in the preparation of the projects that lead to successful crowdfunding campaign. Uncertain and unreliable data about a new venture is a potential signal of quality in the selection process. Cardon et al. (2009) and Chen et al. (2009) identify several key quality signals including the quality of preparation that an aspiring entrepreneurial demonstrate that can lead the venture to traditional face to face investment setting. Lukkarinen and Schwienbacher (2023); Olsson (2023); Sendra-Pons et al. (2023); Huang et al. (2022) explain that signals help to assess the quality of underlying projects. It is further concluded that high

quality projects are assumed to receive more funds. There are mix findings about funding target set in a crowdfunding campaign. Ahlers et al. (2015) identify that target funding is not associated with number of investors in equity crowdfunding. Hakenes and Schlegel (2014) have argued that high funding targets is considered as security to investors thus, positively associated with crowdfunding success.

Mollick (2014) identifies that there is negative relation between higher funding target and success where campaigns with small funding targets are more successful than large funding targets. Belleflamme et al. (2015) have observed that larger targets are associated with equity crowdfunding and smaller targets are associated with reward based crowdfunding. Minimum investment is negatively associated with amount raised and number of investment. Campaign duration is also negatively associated with campaign success because short duration may be considered an attempt of fraud. Provision of documents and financial is positively associated with success. Mollick (2014) suggests that presence of video shows preparation of entrepreneur and lack of video is negatively associated with success. Boeuf et al. (2014) have studied the impact of personal information on investors' investment decision and crowdfunding success. Their results indicate that personal information of the owner of the project and pictures of the directors have positive effect on crowdfunding success. Vukovic et al. (2010) conclude that number of supporters and backers is a constant factor in the success of crowdfunding. So there is exist relationship between campaign characteristics and equity success of equity crowdfunding campaign.

Information asymmetry between entrepreneur and investor creates uncertainty so reduce the chances of investment in the project. Thus, entrepreneur needs to send the signal of quality and one way to send the quality signal is to invest one's own project because if entrepreneur invest substantial share in project its means project is of good quality and has potential of growth. So the equity offered demonstrates the project value and reduce the uncertainty (Ahlers et al., 2015). Target amount of the project is relevant in campaign success because investors are willing to invest in more realistic goal (Mollick, 2014). It means very high funding goals are negatively associated with campaign success. Largest investment is a signal of quality of the project that enhances the investors' trust in the project. It

is because largest investment indicates the presence of professional investor, angel investor or venture capital that has the ability to assess the project quality before investment. So, largest investment works as quality signal and influence investors' investment decision that results in equity crowdfunding campaign success (Vulkan et al., 2016). It also helps to reach the target goal thus enhances the chances of success. Literature reveals that provision of documents works as quality signal and reduce uncertainty between entrepreneur and investor. Lack of financial documents reduces the fund raised in reward based crowdfunding (Mollick, 2014).

Video is associated with the number of investors to the project (Wheat et al., 2013) and it is an important signal for preparation (Mollick, 2014). Updates during the crowdfunding campaign increase the credibility and quality of the project hence enhance the trust of the investors. Updates provide by the entrepreneurs increase the chances of campaign success (Mollick, 2014). Number of followers on platform attracts the investors to go for investment in the project because more people follow a project more trust is developed in the investors about the project. Social media plays a key role in the crowdfunding campaign and crowdfunding theory focuses on the use of social media for fund raising and building the trustworthy relationship between entrepreneurs, investors and customers. Social media and web presence have important role in facilitating founders to access funders (Belleflamme et al., 2015). Thus, following hypotheses are drawn from above literature to explore the campaign characteristics in predicting successful equity crowdfunding campaign.

$H_{1(a)}$: *Equity offered positively influences the equity crowdfunding campaign success.*

$H_{1(b)}$: *Target range negatively influences equity crowdfunding success.*

$H_{1(c)}$: *Largest investment positively influences the equity crowdfunding campaign success.*

$H_{1(d)}$: *Provision of documents with a campaign positively influences equity crowdfunding success.*

$H_{1(e)}$: *Video message is positively associated with equity crowdfunding campaign success.*

$H_{1(f)}$: *Updates during the equity crowdfunding campaigns increases the chances of campaign success.*

$H_{1(g)}$: *Business followers on platform is positively associated with campaign success.*

$H_{1(h)}$: *Social media presence is positively associated with equity crowdfunding campaign success.*

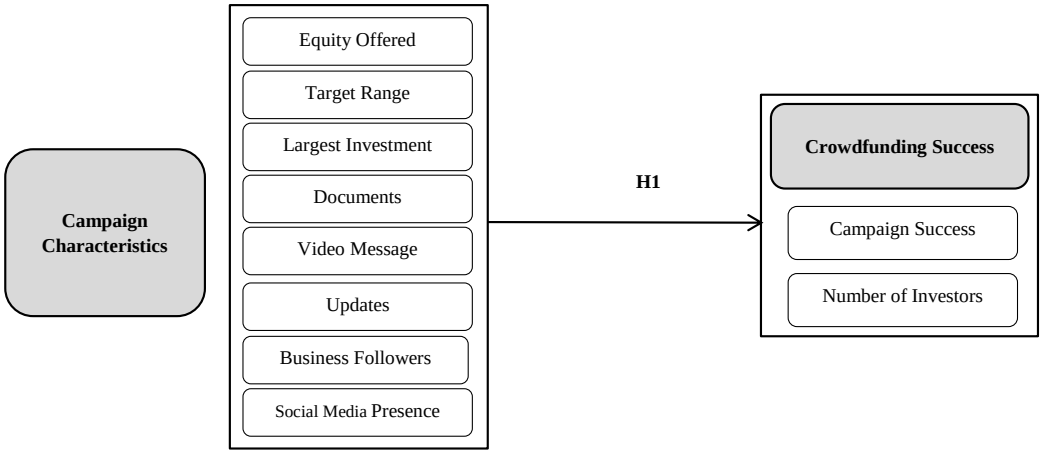

FIGURE 2.1: Determinants of Success of Crowdfunding Campaign

2.5 Equity Crowdfunding and Overfunding

Campaigns that reach the target are declared successful campaigns otherwise unsuccessful. When investors still offer their funds to a successful campaign, it is then declared as overfunded campaign. Martínez-Gómez et al. (2020) identify that there are some campaigns exhibit greater level of overfunding while other just reach the target. Some factors are studied in the context of reward-based crowdfunding for the success or failure of crowdfunding campaigns such as Equity offered, Largest investment, Target range, Provision of documents, Video messages, Pictures of the team, Updates, Industry types etc. There are several factors studied in different form of crowdfunding including previous experience of entrepreneurs (Lichtig,

2015), type of the project (Belleflamme et al., 2010), social network size, project quality, geography and funding goal (Mollick, 2014). Gabison (2014); Frydrych et al. (2014); Mollick (2014) have studies overfunding and concluded that overfunding is a phenomenon of crowdfunding, but underlying factors of overfunding are not yet uncovered. Koch and Siering (2015) identify funding goal, funding duration, reward level, reward limitation, textual information, media communication, activeness of founder on platform, number of friends, number of campaigns and project category have influence on overfunding in reward-based crowdfunding. Li et al. (2022) study impact of initial herd on overfunding in equity crowdfunding. Similarly Number of followers, Social media communication and number of investors etc. are the factors may be responsible for overfunding need to be studied in the context of equity crowdfunding.

Mollick (2014) has investigated crowdfunding phenomenon and identified influencing factors in campaign success in crowdfunding. The results reveal that provision of documents; idea description and video message by entrepreneurs are positive and significant in successful crowdfunding campaign. Anindyaswari and Wijaya (2020); Lukkarinen et al. (2016) have conducted study to explore predictors of equity crowdfunding campaign success. Findings of their study indicate that provision of financial projection in equity crowdfunding campaign predicts equity crowdfunding campaign success. Koch and Siering (2015); Chen et al. (2009) have observed the positive significant impact of length of the project description in funding success in crowdfunding. Bi et al. (2017) have reported positive significant effect of quality signals and electronic word of mouth on crowdfunding campaign success in reward-based crowdfunding. Entrepreneurs offer reward in shape of membership or discounts on investment in the project in order to attract investors. Intrinsic reward is more pronounced in crowd investors (Miller et al., 2019). Understandability refers to the notion that business to consumer projects is more understandable than business to business oriented projects in equity crowdfunding (Lukkarinen et al., 2016). It is explored that geographical location is associated with the successful campaigns (Carbonara, 2021; Mollick, 2014). Although investors are interested in proximity of the projects but location of major business hub is more attractive for investors because of opportunity of good business development. Magnitude

and size of these quality signals enhance project quality and attract investors to invest in a successful campaign and lead campaigns to overfunding. Therefore first hypothesis draws from above explained literature on campaign characteristics.

$H_{2(a)}$: Quality signals positively influence overfunding of a campaign in equity crowdfunding.

Unger et al. (2011) have investigated the role of human capital in venture success and reported positive significant impact of human capital in predicting venture success in fund-raising. Martínez-Gómez et al. (2020); Lukkarinen et al. (2016); Vismara (2016) have explored success factors in predicting crowdfunding campaign success and find positive significant influence of team size in crowdfunding campaign success. Hornuf and Schwienbacher (2018) also find that number of senior managers influences on campaign funding positively in equity crowdfunding. Wiersema (1993) have reported that directors' diverse nationality works as a tool to signal investors that the board has the ability to understand and face the challenges of their operations. Personal information and pictures (Boeuf et al., 2014; Koch and Siering, 2015), experience and managerial skills (Anindyaswari and Wijaya, 2020; Lukkarinen et al., 2016), personality traits (Bernardino and Santos, 2016), and educational background (Lukkarinen et al., 2016; Levie and Gimmon, 2008) are effective signals for investors in equity crowdfunding. Lichtig (2015) have observed that number of projects launched previously by a fundraiser is significantly associated with the number of backers that a project gets. The size of these factors leads successful campaigns to overfunding. Therefore second hypothesis draws from above explained literature on directors' information.

$H_{2(b)}$: Directors' information positively influences overfunding of a campaign in equity crowdfunding.

Crowdfunding theory focuses on the use of social media for fund raising and building the trustworthy relationship among entrepreneurs, investors and customers. Belleflamme et al. (2013) have studied role of social networks and business websites in crowdfunding campaign success in the context of reward-based and equity crowdfunding. They find that use of social media networks and business websites are positively associated with crowdfunding campaign success.

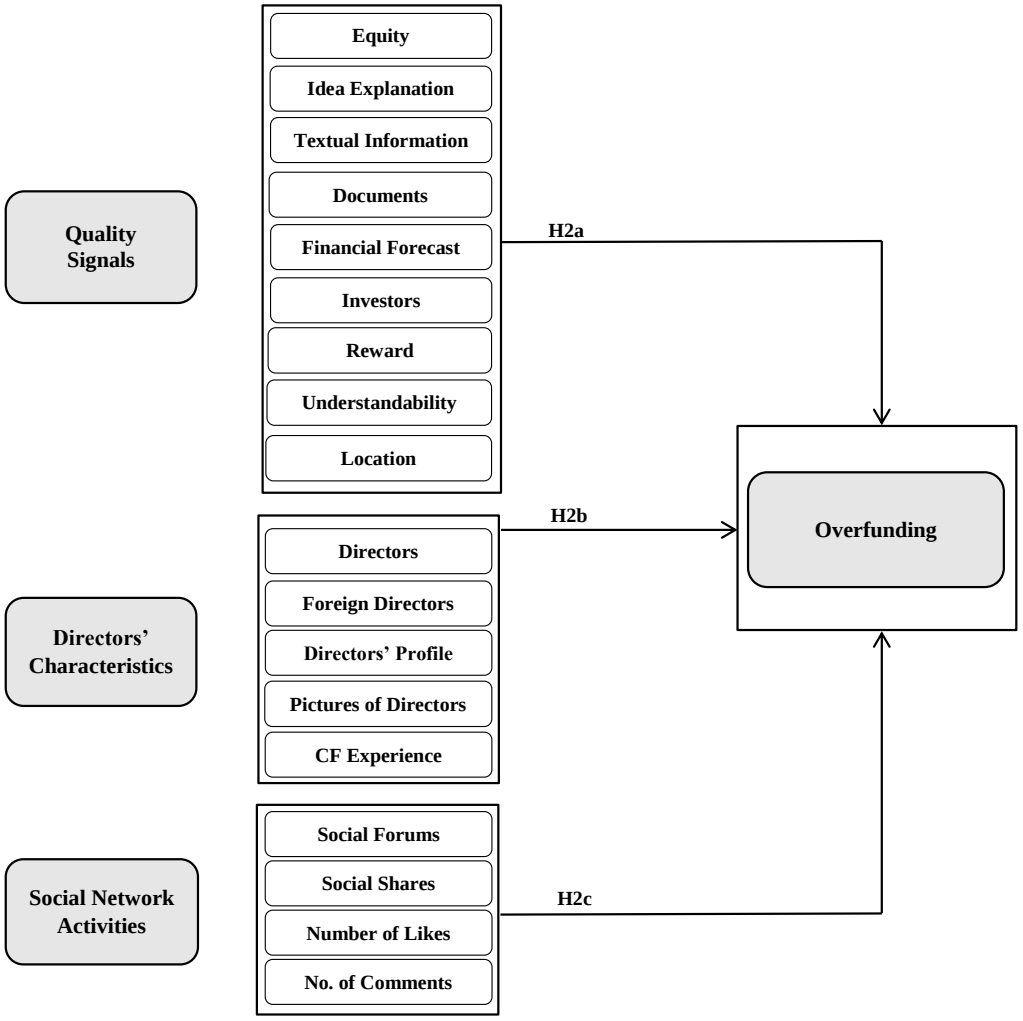

FIGURE 2.2: Impact of Factors of Crowdfunding Success on Overfunding

Zheng et al. (2014) have reported that use of information through different media influences investors' investment decision. Lukkarinen et al. (2016); Mollick (2014) have also reported that social networks of the entrepreneurs lead to successful fund-raising campaign in crowdfunding. Founders post their campaign on social media pages and followers can share their posts. Online reviews and likes make the funder to feel the project of having good electronic word of mouth (Bi et al., 2017). Herding plays very important role in overfunding a project (Li et al., 2022). Higher number of likes and online reviews (Bi et al., 2017) and more use of social network facilities in equity crowdfunding (Martínez-Gómez et al., 2020) results in overfunding. So there is relationship between social network activities and overfunding. Therefore third hypothesis draw from above explained literature on

social network activities.

$H_{2(c)}$: Social network activities positively influence overfunding of a campaign in equity crowdfunding.

Research framework in Figure 2.2 is drawn to summarize above literature and to examine correlation among overfunding, quality signals (campaign characteristics and directors' characteristics), and electronic word of mouth (social network activities) with help of estimate variables. Overfunding is dependent variable while quality signals, directors' characteristics and social network activities are independent variables.

2.6 Equity Crowdfunding and Firm Performance

2.6.1 Mediating Role of Crowdfunding Between Success Factors and Firm Performance

Post campaign firm performance is ultimately the most important outcome that all entrepreneurs and investors need to achieve in equity crowdfunding. Campaign characteristics are significant in high fundraising in an equity crowdfunding campaign because campaign characteristics work as quality signals to influence the investors' investment decisions (Chakraborty and Swinney, 2021; Bapna, 2019; Vismara, 2016; Ahlers et al., 2015; Mollick, 2014). Ordanini et al. (2011) suggests that equity crowdfunding reduces transaction cost in raising funds. There are also tax incentives for those who use equity crowdfunding to raise the funds for business activities. The elimination of traditional financial intermediaries reduces transaction cost between founders and funders as well because in equity crowdfunding, founders raise funds directly from funders that reduce transaction cost. Theories of wisdom explain that collective decision making can result in better performance than an individual decision making (Budescu and Chen, 2015). Projects that are supported by large community are of high quality. Zhang and Liu (2012) argue that crowdfunding campaigns attract large number of investors and create herding effect that applies to equity crowdfunding campaign for high

sales growth. Mollick (2014)has identified that in reward-based crowdfunding; even less than 5% of the projects fail to deliver their products. This means that crowdfunding in reward-based business model is enabling entrepreneurs to have more than 95% post campaign success chances. Signori and Vismara (2016) have reported that only 10% firms fail after successful campaign in equity crowdfunding which is a very low percentage as compared to 56% failure rate to return capital in case of UK business angel investment Fontana and Nesta (2009). These reports of post campaign firm performances and firm survival regarding crowdfunded firms and a very low failure rate as compare to other then crowdfunded business depict the significant important of crowdfunding campaign characteristics and crowdfunding fund raising in post campaign firm survival and performance. Lu et al. (2022) have identified positive significant mediating effect of forwarding time (social networks activities) in the relationship between textual information and funding success. Rodriguez-Ricardo et al. (2019) have studied the mediating role of investors' trust between personality traits (altruism and locus of control) and investors' participation in crowdfunding. Their results conclude the significant positive mediating effect of personality traits on investors' intention to participate in crowdfunding. Campaign characteristics are significant in successful fund raising in crowdfunding that may results in firm performance. Thus, following hypothesis is drawn from above literature to test mediating effect of crowdfunding between campaign characteristics and firm performance.

H_3: Crowdfunding mediates the relationship between equity crowdfunded firms' performance and crowdfunding campaign characteristics.

To explore the mediating role of crowdfunding, Baron and Kenny (1986)'s assumptions for mediation have been used to define the relationship between independent and dependent variables. According to Baron and Kenny (1986), first assumption is the existence of significant association between independent and dependent variable. Second assumption is that independent variable influences mediator. Third assumption is the positive association between mediator and independent variable. Last one assumption is that the independent variable and mediator predict dependent variable. In case of full mediation, the presence of mediator results in significant relationship between independent and dependent variable but in the

absence of mediator, the relationship between independent and dependent variable becomes insignificant. So in the light of their assumptions following hypothesis explain the relationship.

$H_{3(a)}$: Campaign characteristics positively influence crowdfunding campaign success.

To perform, first step is to arrange funds for business trading. Funding helps to start business activities and leads towards firm performance. Crowdfunding provides an easy and cost efficient capital for business action. Campaign characteristics influence investors to make investment decisions that result in fund raising through crowdfunding campaign success.

$H_{3(b)}$: Campaign characteristics positively influence the successful fund-raising in crowdfunding.

$H_{3(c)}$: Crowdfunding campaign success positively influences firm performance.

Crowdfunding characteristics have positive relationship with firm performance. In the presence of crowdfunding this relationship is significant but in the absence of crowdfunding, this relationship is no more significant. Mollick (2014) has identified that campaign characteristics include equity offering, number of investors, largest investment offering, business followers and social followers. Information asymmetry between entrepreneur and investor creates uncertainty so reduce the chances of investment in the project (Leland and Pyle, 1977). Entrepreneur needs to send the signal of quality and one way to send the quality signal is to invest one's own project (Ahlers et al., 2015). Equity offered shows the entrepreneur commitment to the project which leads towards better performance. Zhang and Liu (2012) argue that crowdfunding campaigns attract large number of investors and create herding effect that may results in high sales growth in equity crowdfunding. High sales growth results in better performance of the firms. Largest investment has very important role in driving the success of a crowdfunding campaign (Vulkan et al., 2016). Largest investment sends the signal of quality of the project and attracts large number of investors. Single largest investment is made by more professional investors who are known as venture capitalist. These professionals are expert in providing key guidance for better performance of the firms (Vulkan et al., 2016). Crowdfunding theory stats that crowdfunding, invites large number of diverse

investors, it provides the firm with large number of brains and intellectual skills that may be very useful for the firm performance and growth. Number of followers on platform attracts the investors to go for investment in the project because more people follow a project more trust is developed in the investors about the project.

$H_{3(d)}$: Campaign characteristics and crowdfunding positively influence the equity crowdfunded firm performance.

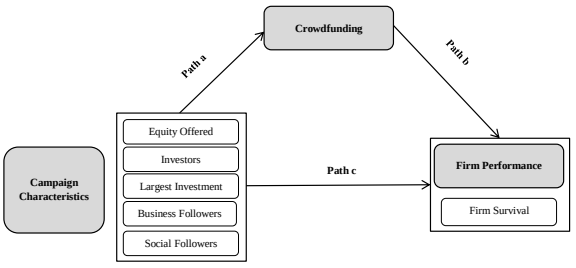

FIGURE 2.3: Mediating role of Crowdfunding between Success Factors and Firm Performance

2.6.2 Comparison Between Crowdfunded and Non-Crowdfunded Firm Performance

Mollick (2014) in his study on crowdfunding, has reported that the failure rate in reward-based crowdfunding is less than 5%. That means 95% of the firms successfully deliver the product to customers after successful crowdfunding. Signori and Vismara (2016) have observed that there is 90% post campaign firm survival rate in equity crowdfunding. They report the comparison between equity crowdfunded firms failure rate with business angel investment failure rate. After successful equity crowdfunding campaigns, only 10% firms fail which is a very low percentage as compared to 56% failure rate to return capital in case of UK business angel investment Fontana and Nesta (2009). Number of followers on social media works as an advertising tool for the firm and results in high sales growth and performance. Zhang and Liu (2012) argue that crowdfunding campaigns attract large number of investors and create herding effect that applies to equity crowdfunding campaign for high sales growth. The ultimate impact of high sales growth is better performance than the firms have not gone for crowdfunding. There are also cost reduction benefits associated with equity crowdfunding because of low transaction cost due to

direct interaction with investors, removal of financial intermediaries, and tax relief. Crowdfunding campaigns are also significant in post campaign firm performance while social networks and social followers are important tool to create and enhance customer loyalty thus, result in firm performance and active business trading. So, it can be inferred that crowdfunded firms perform better than non-crowdfunded firms. The impact of crowdfunding can be uncovered by a comparison between crowdfunded and non-crowdfunded firms.

H_4: Crowdfunded firms perform better than non-crowdfunded firms.

2.6.3 Impact of Campaign Success Factors on Firm Performance

The focus of previous researches is on defining, explaining and exploring types and success factors in crowdfunding. Literature in crowdfunding is lacking in empirical research especially in the context of equity crowdfunding (Caputo et al., 2022; De Crescenzo et al., 2020; Mochkabadi and Volkmann, 2020). Brüderl et al. (1992) suggest that organizational ecology and human capital theory give insights into the firm survival determinants. Hornuf et al. (2018) have investigated determinants that affect equity crowdfunded firm survival and follow-up funding in Germany and UK. They find that number of venture capital investors, crowd exit and subsequent crowdfunding round are positively significant in firm survival. But equity crowdfunding phenomenon is still new in financial contracting and share allocation mechanism as compare to traditional equity financing that might leads to atypical outcomes (Hornuf et al., 2018). That is why hypothesis and empirical analysis of this study remain original to some extent and exploratory. The focus of this study is to fill empirical research gap by exploring role of success factors in post campaign firm survival by remaining active in business trading. This study develops an empirical model on the bases of ELM in equity crowdfunding.

Generally start-ups depend on two factors for building an enduring business. First, the firms in start-ups that have ability to send effective signals to potential investors receive more capital that lead to lower probability of business failure. Secondly some firms are inherently more valuable that lead to lower probability of firm

failure. (Hornuf et al., 2018) have suggested that if investors cannot perceive value of a firm, it results in lack of capital and higher probability of firm failure. Entrepreneurs thus need way to communicate investors about quality of venture with the help of quality signals in order to attract investors' attention (Mollick, 2014). There are several key quality signals identified by researchers that can lead the venture to successful fund raising including the quality of preparation (Cardon et al., 2009; Chen et al., 2009), product certification (Bapna, 2019; Ahlers et al., 2015), information about business team (Lim and Busenitz, 2020; Bernstein et al., 2017), and costly signals (Butticè et al., 2020). Presence of quality signals lead campaigns to success but magnitude of these signals may lead a firm to post campaign business success. So these quality signals must be explored empirically to analyze their impact on post campaign firm success in terms of their magnitude and size.

The elaboration likelihood model (ELM) is used to study the impact of online information in crowdfunding. This is a major theoretical model which is used in online behavior research (Cheng and Ho, 2015; Ho and Bodoff, 2014; Shih et al., 2013; Lee and Youn, 2009; Chu and Kamal, 2008). Literature explains that there are two routes of ELM to study the influence of online information on investing decision of funders. Quality signal is classified as central route while electronic word of mouth is classified as peripheral route (Cheng and Ho, 2015). Quality signal cues influence the investors' investing decision and online likes and reviews make the project having good electronic word of mouth (Bi et al., 2017). This study uses the signaling theory and elaboration likelihood model for formulating research model to investigate role of success factors on post campaign business success in equity crowdfunding.

Literature reveals that equity investment by founders (Bolumole et al., 2015), provision of documents (Mollick, 2014), provision of financial projection in equity crowdfunding (Anindyaswari and Wijaya, 2020; Lukkarinen et al., 2016), and largest investment (Vulkan et al., 2016), and positively affect funding success in crowdfunding. Number of supporters and backers is a constant factor in the success of crowdfunding campaign (Vukovic et al., 2010). Décarre and Wetterhag (2014) have argued that angel investor, overfunding and number of investors affect post

campaign profit growth positively in equity crowdfunding. Magnitude and size of these quality signals enhance probability of post campaign firm success. Therefore first hypothesis draws from above explained literature on campaign characteristics. H5a: Quality signals increases the probability of post campaign firm success in equity crowdfunding.

H_{5b}: Quality signals positively influence on post campaign asset growth in equity crowdfunding.

Human capital is significant in venture success (Unger et al., 2011) while team size (Martínez-Gómez et al., 2020; Lukkarinen et al., 2016; Vismara, 2016) and number of senior managers (Hornuf and Schwienbacher, 2018) have an influence on campaign funding positively in equity crowdfunding. Hornuf et al. (2018) have reported that if the number of senior management in a team increases, probability of firm failure decreases. Directors' diverse nationality works as a tool to signal investors that the board has the ability to understand and face the challenges of their operations (Wiersema, 1993). Personal information (Boeuf et al., 2014), pictures (Koch and Siering, 2015), experience and managerial skills (Anindyaswari and Wijaya, 2020), personality traits (Bernardino and Santos, 2016), and educational background (Lukkarinen et al., 2016; Levie and Gimmon, 2008) are effective signals for investors in equity crowdfunding. Lichtig (2015) have observed that number of projects launched previously by a fundraiser is significantly associated with the number of backers that a project gets in subsequent fund-raising. The magnitude of these factors leads firm to post campaign success. Therefore second hypothesis draws from above explained literature on directors' information.

H_{6a}: Directors' characteristics increase the probability of post campaign firm success in equity crowdfunding.

H_{6b}: Directors' characteristics positively influence on post campaign asset growth in equity crowdfunding.

Crowdfunding theory focuses on the use of social media for fund raising and building the trustworthy relationship among entrepreneurs, investors and customers. Social networks and websites (Belleflamme et al., 2013), use of information through different media (Zheng et al., 2014), and social networks (Lukkarinen et al., 2016; Mollick, 2014) lead to successful campaign in crowdfunding.

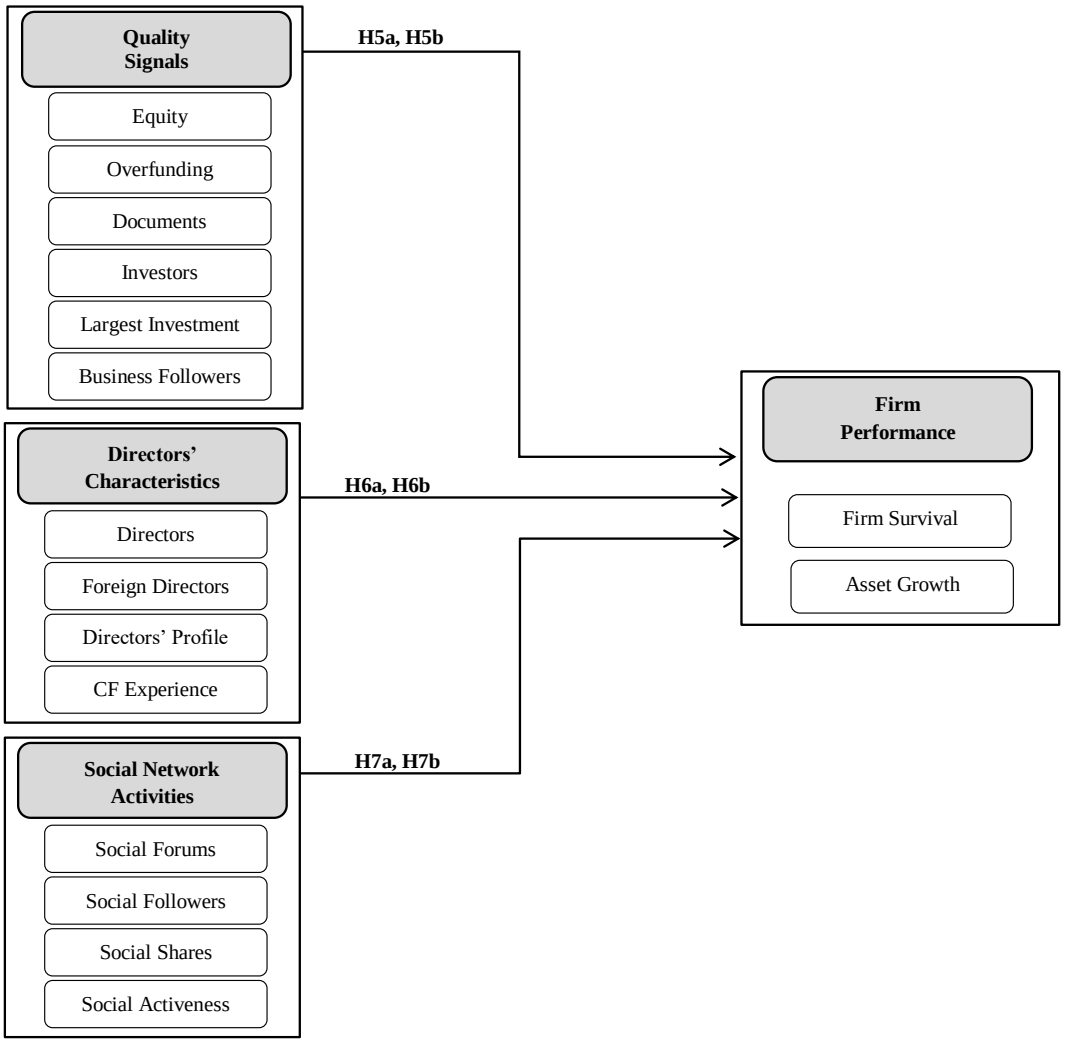

FIGURE 2.4: Impact of Campaign Success Factors on Firm Performance

Founders post their campaign on social media pages and followers can share their posts. It works as advertising tool that increase sales growth thus, impact post campaign firm performance. Online reviews and likes make the funder to feel the project of having good electronic word of mouth (Bi et al., 2017). Herding plays very important role in overfunding of an equity crowdfunding campaign (Li et al., 2022). Higher number of likes and online reviews and more use of social network facilities in equity crowdfunding (Martínez-Gómez et al., 2020) result in overfunding. So there is relationship between social network activities and post campaign firm success. Therefore third hypothesis draw from above explained literature on social network activities.

H_{7a}: Social network activities increase probability of post campaign firm success in equity crowdfunding.

H_{7b}: Social network activities positively influence on post campaign asset growth in equity crowdfunding.

Conceptual framework in Figure 2.4 is drawn to summarize above literature and to examine correlation among post campaign firm performance (firm survival and asset growth), quality signals (campaign characteristics and directors' information), and social network activities (electronic word of mouth).

2.7 Impact of Successive Round on Investors'-Trust in Equity Crowdfunding

It is noted that in the presence of information asymmetries, entrepreneurs still have been able in attracting substantial funding through crowdfunding platforms such as Crowdcube, Seedrs, Kickstarter and ASSOB. It means investors have been able to find out quality of listed ventures by evaluating information provided on platform. Investors read some information as attributes to quality ventures and signals of quality while deciding to invest in some ventures because all ventures do not receive funding. Previous theoretical and empirical studies on crowdfunding are discussed comprehensively to find out a research gap. The focus of previous researches is on defining, explaining and exploring types and success factors in crowdfunding. Literature in crowdfunding is lacking in empirical research especially in the context of equity crowdfunding (Caputo et al., 2022; De Crescenzo et al., 2020; Mochkabadi and Volkmann, 2020). But equity crowdfunding phenomenon is still new in financial contracting and share allocation mechanism as compare to traditional equity financing that might leads to atypical outcomes (Hornuf et al., 2018). That is why hypothesis and empirical analysis of this study remain original to some extent and exploratory. The focus of this study is also to fill empirical research gap by exploring role of successive fund raising campaign after a successful campaign, in developing investors' trust. Establishment of trustworthy relationship may leads the entrepreneurs in meeting high funding targets, high fund raising, high overfunding, attracting more number of investors, attracting large single investments from professional investors and also in getting successive campaign success even with low level of equity.

The signaling theory can be applied in the context of equity crowdfunding as well (Kleinert et al., 2020; Vismara, 2018b; Ahlers et al., 2015; Connelly et al., 2011) just like in conventional financing to study investors' investment decision making and selecting investment opportunities. Vismara (2018a) finds that in equity crowdfunding early bird investors attract large number of late investors. Drover et al. (2017) conclude that crowdfunding performances have positive impact on venture capital firms' screening and investing decisions. A company with successful equity crowdfunding campaign has higher probability of obtaining funds from venture capital firms (Butticè et al., 2020). It means that a successful equity crowdfunding campaign can lower information asymmetry and also works as positive signal to investors in successive fund raising round. There is positive relationship between firms with successful equity crowdfunding campaigns and probability of obtaining funds from venture capital firms (Signori and Vismara, 2018). There are also some opposing views suggesting that crowd investors' investment decisions are based on their experiences, personal preferences, geographical proximity and peer influence (Di Pietro et al., 2021; Shafi, 2021; Wallmeroth, 2019; Kim and Viswanathan, 2018). Some studies also explore that most of crowd investors do not go through an evaluation process before taking investment decision in an equity crowdfunding campaign by analyzing forecasted financial returns of companies (Zinecker et al., 2022; Grilli, 2019; Cumming et al., 2018).

Signori and Vismara (2018) have investigated follow-up funding in equity crowdfunding and suggested that companies with successful equity crowdfunding campaigns have higher probability of attracting successive financing from crowd investors. There are also supporting findings from the study of Butticè et al. (2020) that successful equity crowdfunding campaigns have more probability of attracting investments from venture capital firms than other sources of funding. However these studies conclude the post campaign impact of successful equity crowdfunding campaign in receiving investments from venture capital firms and also from investors in subsequent financing round in equity crowdfunding only with minimum number of variables. Moreover variables from campaign related characteristics are not explored in relation to their post campaign impact on successive equity crowdfunding campaigns (Butticè et al., 2020). This study aims to fill this research gap

empirically by exploring post campaign impact of a successful equity crowdfunding campaign on successive equity crowdfunding campaigns in meeting high funding targets, funding success with low level of equity, high fund raising then targets, overfunding, in attracting large number of investors and in receiving large single investments from more professional investors.

The firms that have ability to send effective signals to potential investors receive more capital that results in successful fund raising campaigns. If investors cannot perceive value of a firm, it results in lack of capital (Hornuf and Schwienbacher, 2018). Entrepreneurs thus communicate investors about quality of venture with the help of quality signals in order to attract investors' attention (Mollick, 2014). There are several key quality signals identified by researchers that can lead the venture to successful fund raising including the quality of preparation (Cardon et al., 2009; Chen et al., 2009), product certification (Bapna, 2019; Ahlers et al., 2015), information about business team (Lim and Busenitz, 2020; Bernstein et al., 2017), and costly signals (Di Pietro et al., 2023). Successful equity crowdfunding campaign can also work as quality signal in receiving subsequent funding from venture capital firms (Butticè et al., 2020) and in attracting investors (Signori and Vismara, 2018).

2.7.1 Successive Round and Crowdfunding Target

As discussed above that Crowdcube platform works on all or nothing model. It means only successful campaigns receive funds from investors. Campaigns that reach the target are declared successful campaigns otherwise unsuccessful. Due to all or nothing model of Crowdcube, target setting is a challenging task for entrepreneurs as in case of unsuccessful campaign, entrepreneurs receive no funds. There is negative relationship between high funding target and success (Mollick, 2014). As small funding targets increase chances of success but projects face shortage of startup cost. The factors to get a campaign successful in equity crowdfunding and to meet the target are start strongly, have many backers and have at least one backer with a large amount to pledge in the venture (Vulkan et al., 2016). Campaigns with more information about past achievements of the firms are more likely to reach their funding goals (Di Pietro et al., 2023). Successful equity

crowdfunding campaign attracts large number of investors in subsequent equity fund raising (Signori and Vismara, 2018) and also increases probability of receiving funds from venture capital firms (Butticè et al., 2020). So in successive fund raising equity crowdfunding campaign, successful equity crowdfunding campaign may be used as quality signal that may enhance investors' trust. It may result in attracting large number of investors that lead to meet high funding targets. Thus a hypothesis draws from above explained literature on funding target in equity crowdfunding.

H_{8a}: Successive equity crowdfunding campaign increases the probability to achieve high funding target.

2.7.2 Successive Round and Funds Raised

Campaigns that provide more information to potential investors about the past achievements (costly signals) of the firm reduce information asymmetry and convey positive signal to investors that the firm has ability to perform in future. Past performances (costly signals) have positive impact on fund raising (Di Pietro et al., 2023). Fund raising is total amount that has been raised in an equity crowdfunding campaign against the target amount. As discussed above start-ups depend on two factors for developing a sustainable business. First, the firms' ability to acquire more capital that leads to lower the probability of business failure. Secondly some firms are inherently more valuable that lead to lower probability of firm failure. If investors cannot perceive value of a firm, it results in lack of capital and higher probability of firm failure (Hornuf et al., 2018). So high fund raising is an important factor in firms' survival in equity crowdfunded firms.

Number of directors in a board of firm seeking equity crowdfunding is positively and significantly related to high fund raising (Ahlers et al., 2015). Presence of sufficient number of directors indicates that firm has diversity of expertise in board team. Number of backers also works as quality signals and increases the chances of further fund raising (Mollick and Nanda, 2016). Companies with successful equity crowdfunding campaigns have higher probability of attracting successive financing from crowd investors (Signori and Vismara, 2018). Thus next hypothesis draws from above explained literature on total fund raised in equity crowdfunding.

H_{8b}: Successive equity crowdfunding campaign increases the probability of high fund raising in an equity crowdfunding campaign.

2.7.3 Successive Round and Overfunding

There is negative relationship between high funding target and success (Mollick, 2014). In this situation it is observed that small funding targets increase chances of success but projects face shortage of startup cost. Crowdcube works on all or nothing model which means that entrepreneurs only receive fund if campaigns successfully reach the target amount otherwise declares unsuccessful campaign. In these circumstances, target setting is a challenging task for entrepreneurs as in case of unsuccessful campaigns, entrepreneurs receive no funds. But empirical evidences show that some campaigns exhibit greater level of overfunding (Martínez-Gómez et al., 2020). So overfunding plays important role for entrepreneurs in raising more funds to meet startup cost. Overfunding helps entrepreneurs in collecting additional funds for projects to meet liquidity requirements that is why entrepreneurs not only accept overfunding but also use overfunding in campaign as quality signal to attract more investors.

Literature reveals that quality signals like provision of documents (Mollick, 2014), provision of financial projection in equity crowdfunding (Anindyaswari and Wijaya, 2020; Lukkarinen et al., 2016), length of the project description and provision of video (Koch and Siering, 2015; Mollick, 2014; Chen et al., 2009) positively affect funding success in crowdfunding and magnitude of these quality signals as success factors increase the overfunding of a campaign (Martínez-Gómez et al., 2020). It is explored that a firm with successful equity crowdfunding campaign has higher probability of obtaining funds from venture capital firms(Hornuf et al., 2018). It means that a successful equity crowdfunding campaign may work as quality signal to investors in successive fund raising round to influence investors investment decision. This may lead to overfunding in subsequent equity crowdfunding campaign. Therefore next hypothesis draws from above explained literature on overfunding in successive equity crowdfunding round.

H_{8c}: Successive equity crowdfunding campaign positively influences overfunding.

2.7.4 Successive Round and Equity Offered

Information asymmetry is major constraint in attracting investors to invest in equity crowdfunding campaigns on crowdfunding platforms. Ahlers et al. (2015) conclude that high level of information asymmetry in equity crowdfunding can affect investment decision of the crowd investors. As entrepreneurs use signaling to reduce information asymmetry by communicating various quality signals, equity contribution by founders is also a sign of quality that impact the uncertainty about the firm and also investors' decision of investment. Equity share of entrepreneurs in fund raising campaign is an effective signal of venture quality. It is because entrepreneurs need to bear cost for retaining equity interest so they only think to retain substantial equity interest in the project if they believe high future cash flows from the company. Substantial equity interest in the firm can also help to align the interests of founders and funders (Ahlers et al., 2015). High equity level can increase the chances of fund raising success but also increase the cost for entrepreneurs because they need to arrange substantial amount to signal the prospective investors about the venture quality. Costly signals (past successful crowdfunding, fund raisings and achievements) are more valuable than costless signals for prospective investors (Di Pietro et al., 2023). So in subsequent equity crowdfunding campaign, previous successful crowdfunding campaigns can work as costly signal in achieving high funding targets even with lower level of equity interest in the venture in subsequent fund raising campaign. Therefore next hypothesis draws from above explained literature on overfunding in successive equity crowdfunding round.

H_{8d}: Successive equity crowdfunding campaign negatively influences level of equity offering in subsequent campaigns of equity crowdfunding.

2.7.5 Successive Round and Number of Investors

Equity crowdfunding is typically used for fund raising but there are other goals as well that companies want to achieve through equity crowdfunding campaigns (Lukkarinen et al., 2016). The goals along with fundraising are promotion and marketing, collecting feedback, market testing as well as relationship building (Belleflamme et al., 2013). Similarly successful campaigns can be those that not

only raise sufficient amount but also attract large number of investors (Lukkarinen et al., 2016). Investors are more interested in campaigns with smaller funding target in reward-based crowdfunding (Mollick, 2014; Zheng et al., 2014) and in campaigns with high funding target in equity crowdfunding (Lukkarinen et al., 2016). Product certification from stakeholders, provision of documents (Bapna, 2019; Lukkarinen et al., 2016; Ahlers et al., 2015), early funding from private networks, and social media network (Lukkarinen et al., 2016) are positively associated with number of investors in an equity crowdfunding campaign. Investors also prefer to invest in campaigns involve in business to consumer products thus there is positive relationship between campaigns with business to consumer product and number of investors. Costly signals such as information about successful fundraising in past convey a positive signal to potential investors about the venture quality thus result in successful campaign (Di Pietro et al., 2023). Therefore next hypothesis draws from above explained literature on number of investors in successive equity crowdfunding round.

H_{8e}: *Successive equity crowdfunding campaign positively influences number of investors offering investment in the project.*

2.7.6 Successive Round and Largest Investment

Large investments from a few investors can play very important role in campaign success. Vulkan et al. (2016) conclude that largest investment account for about 30 percent of total fund raised in successful campaigns while in unsuccessful campaign highest investment account for 5.4 percent of total amount collected. Large investments not only contribute in successful fund raising but also incentivize other investors to invest in specific campaigns. That is why campaigns provide information about largest offering in a campaign along with total funds raised at point of time. It means large investments from a few investors can act as positive signal about the quality of venture for potential investors who are yet to decide for investing in campaign (Vulkan et al., 2016). The lead investment usually shows that project has business angel or venture capitalist (Kim and Viswanathan, 2018). Business angel and venture capitalists are those investors who have great

experiences of investing in different projects and also have expertise to run the businesses (Huang and Knight, 2017; Stuart and Sorensen, 2001).

TABLE 2.1: Status of all Hypotheses of the Study after Results

Hypothesis	**Expected Sign**	**Actual Sign**	**Acceptance Rejection**
Hypothesis 1a (Equity Offered)	(+)	(+)	Accepted
Hypothesis 1b (Target)	(-)	(-)	Accepted
Hypothesis 1c (Largest Investment)	(+)	(+)	Accepted
Hypothesis 1d (Documents)	(+)	(+)	Accepted
Hypothesis 1e (Video)	(+)	(+)	Rejected
Hypothesis 1f (Updates)	(+)	(+)	Accepted
Hypothesis 1g (Business Followers)	(+)	(+)	Rejected
Hypothesis 1h (Social Media Presence)	(+)	(+)	Accepted
Hypothesis 2a (Quality Signals)	(+)	(+)	Accepted
Hypothesis 2b (Directors' Information)	(+)	(+)	Accepted
Hypothesis 2c (Social network)	(+)	(+)	Accepted
Hypothesis 3 (Mediation)	(+)	(+)	Rejected
Hypothesis 4 (Crowdfunded Firms)	(+)	(+)	Accepted
Hypothesis 5a (Firm Success)	(+)	(+)	Accepted
Hypothesis 5b (Asset Growth)	(+)	(+)	Accepted
Hypothesis 6a (Firm Success)	(+)	(+)	Accepted
Hypothesis 6b (Asset Growth)	(+)	(+)	Accepted
Hypothesis 7a (Firm Success)	(+)	(+)	Accepted
Hypothesis 7b (Asset Growth)	(+)	(+)	Accepted
Hypothesis 8a (Funding Target)	(+)	(+)	Accepted
Hypothesis 8b (Fund Raising)	(+)	(+)	Accepted
Hypothesis 8c (Overfunding)	(+)	(+)	Accepted
Hypothesis 8d (Level of Equity)	(-)	(-)	Accepted
Hypothesis 8e (number of Investors)	(+)	(+)	Accepted
Hypothesis 8f (Largest Investment)	(+)	(+)	Accepted

Investors can understand that firms having business angel and venture capitalists

not only able to handle capital requirement but also has professional to run business thus have potential for post campaign survival with active business trading. Past performances and successful fund raising work as costly signal for investors about the quality of venture result in campaign success (Di Pietro et al., 2023). Subsequent equity crowdfunding campaign may have great attraction not only for small investors but also for business angels and venture capitalists to pledge large investments in equity crowdfunding campaigns. Thus next hypothesis draws from above explained literature on largest investment in successive equity crowdfunding round.

H_{8f}: Successive equity crowdfunding campaign positively influences single largest investment offer by investor in the project.

Research framework in Figure 2.5 is drawn to summarize above literature and to examine correlation among successive round, target, fund raised, overfunding, equity, number of investors and largest investment.

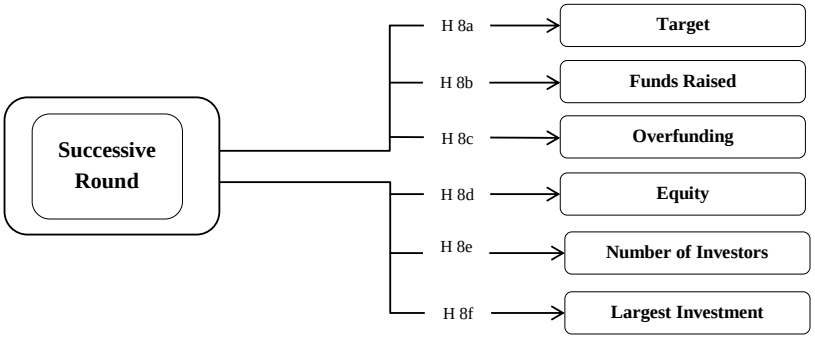

FIGURE 2.5: Impact of Successive Round on Investors' Trust

2.8 Summary of the Chapter

This chapter describes the theories that justify the role of campaign characteristics as quality signals in crowdfunding campaign success and overfunding. Literature regarding success factors and determinants of post campaign firm performance in equity crowdfunding is reviewed. Furthermore, studies in the context of follow-up funding and successive crowdfunding rounds are reviewed to explain the role of successive round as quality signal in developing investors' trust. This study has formulated eight main hypotheses on the bases of the literature that has been reviewed.

Chapter 3

Data and Research Methodology

This study uses six data sets to achieve six objectives of the study. Data for this study has been collected from world largest equity crowdfunding platform Crowdcube (Crowdcube, 2023). Crowdcube is the first equity crowdfunding platform established in United Kingdom. Crowdcube has been selected because it is licensed equity crowdfunding platform from European Crowdfunding Service Provider (ECSP) that enables it to work across the Europe. Thus, this study is not country specific but cover activities from all countries of Europe on Crowdcube. It also offers an ideal data base for empirical research including data of financial reporting by firms. It is authorized and regulated by the Financial Conduct Authority of the United Kingdom. Crowdcube reports that this platform had raised more than £1 B for 1300 successfully funded projects (Crowdcube, 2023). There are 1,500,000 registered members and an average investment amount is £692,000 for a project (Crowdcube, 2023). Crowdcube only maintains the record of successful campaigns.

Samples of all data sets are cleaned from error by reviewing and confirming from source of data. Missing data has been removed case wise. Campaigns and firms with missing data and information have also been dropped for more accurate results. Even after dropping some campaigns and firms, this study uses sufficiently large sample size to attain more reliable results. Irrelevant and duplicate data has been removed to clean the data. Outliers and abnormal values have been excluded from sample for better results. All observations in sample of data set have been sorted in order as on Crowdcube platform. To explore role of successive equity crowdfunding

campaign, this study uses logarithmic transformation of target amount, funds raised and largest investment because it reduces variables' skewness and improves fit of the model (Lukkarinen et al., 2016).

3.1 Determinants of Success of Crowdfunding-Campaign

3.1.1 Construction of the Sample

To explore the factors behind successful equity crowdfunding campaigns, data has been collected from Crowdcube and internet archive Wayback Machine. Crowdcube maintains data of successful campaigns only and data of unsuccessful campaign is removed from Crowdcube. So, data of unsuccessful campaign has been collected through internet archive Wayback Machine. To study the impact of campaign characteristics on crowdfunding campaign success, the sample includes 750 campaigns out of 800 that have tried for equity crowdfunding on Crowdcube. There are 500 successful campaigns and 250 unsuccessful campaigns in sample from July, 2011 to June, 2021. 50 campaigns are excluded because of missing data of variables of the study. Crowdcube provides specific page on platform to each campaign where founders reports all necessary information about the campaign. Data on campaign characteristics has been collected from campaign page on Crowdcube.

3.1.2 Definition of Variables

To study the impact of campaign characteristics on crowdfunding campaign success, campaign characteristics are selected by reviewing existing literature. These characteristics are associated with campaigns when launched by entrepreneurs to attract investors for investing in their projects. Thus, these characteristics may result in campaign success and large number of investors in respective campaign. Table 3.1 gives details of dependent and independent variables along with brief definitions of variables, how these variables are measured measure and source of variable from previous literature in the field of crowdfunding.

TABLE 3.1: Definitions of Variables: Determinants of Success of Crowdfunding Campaign

Variable	**Estimate Variable**	**Measure**	**Source**
Dependent Variable	Successful Campaign	Dummy variable "1" for success or "0" for unsuccessful.	(Lukkarinen et al., 2016; Vulkan et al., 2016)
	Investors	Total number of investors	(Lukkarinen et al., 2016; Vulkan et al., 2016)
Independent Variable	Equity Offered	Percentage of target amount contributed by entrepreneurs.	(Di Pietro et al., 2023; Ahlers et al., 2015)
	Target	Amount to be raised in campaign.	(Koch and Siering, 2015; Mollick, 2014)
	Largest Investment	Largest amount offered from single investor i.e. venture capital.	(Vulkan et al., 2016)
	Documents	Number of documents provided on campaign page.	(Anindyaswari and Wijaya, 2020; Mollick, 2014)
	Video Message	Dummy variable "1" for providing video or "0" otherwise.	(Mollick, 2014)
	Updates	Total number of updates on Crowdcube page.	(Block et al., 2018)

Variable	Estimate Variable	Measure	Source
	Business Followers	Total number of followers on Crowdcube platform.	(Aprilia and Wibowo, 2016)
	Social Media Presence	Dummy variable "1" for having social media accounts or "0" otherwise.	(Lukkarinen et al., 2016; Belleflamme et al., 2013)

3.1.3 Econometric Model

To explore success factors behind a successful equity crowdfunding campaign, linear regression model is used. Equation 3.1 shows the linear regression model which defines the relationship between campaign characteristics and equity crowdfunding campaign success.

$$\text{Success}_i = \beta_0 + \beta_1 \text{ Equity}_i + \beta_2 \text{ Target}_i + \beta_3 \text{ Largest Investment}_i + \beta_4 \text{ Documents}_i + \beta_5 \text{ Video}_i + \beta_6 \text{ Updates}_i + \beta_7 \text{ Business Followers}_i + \beta_8 \text{ Social Media Presence}_i + \varepsilon_i \quad \text{(Eq. 3.1)}$$

3.2 Impact of Factors of Crowdfunding Success on Overfunding

3.2.1 Construction of the Sample

To explore the reasons for overfunding of the projects, the sample includes 783 out of 821 campaigns from July, 2011 to December, 2021 that have raised funds from 100 percent to 841 percent. 38 campaigns are excluded because of incomplete data. This study uses data on campaign characteristics from campaign page on Crowdcube and directors' information from Companies House. Data of social network activities has been collected from company's social pages on Facebook and

Twitter. Facebook and Twitter accounts are chosen for variable operationalization because these are more widely used social networks and in our sample, highest number of campaigns uses these two social network accounts.

3.2.2 Definition of Variables

Table 3.2 gives details of dependent and independent variables along with brief definitions, measures and sources of variables in studying overfunding.

TABLE 3.2: Definitions of Variables: Impact of Factors of Crowdfunding Success on Overfunding

Variable	**Estimate Variable**	**Measure**	**Source**
Dependent Variable	Overfunding	Percentage to the target amount that has been raised.	(Martínez-Gómez et al., 2020; Koch and Siering, 2015)
Independent Variable	Equity Offered	Percentage of target amount contributed by entrepreneurs.	(Di Pietro et al., 2023; Ahlers et al., 2015)
	Textual Information	Dummy variable "1" for providing video, text and pictures or "0" otherwise.	(Di Pietro et al., 2023; Mollick, 2014)
	Idea Explanation	Number of words in idea description.	(Dorff, 2013; Koch and Siering, 2015)
	Documents	Number of documents provided on Crowdcube.	(Mollick, 2014)
	Financial Forecast	Dummy variable "1" for providing financial forecast or "0" otherwise.	(Anindyaswari and Wijaya, 2020; Lukkarinen et al., 2016)
	Investors	Total number of investors.	(Lukkarinen et al., 2016; Vulkan et al., 2016)

Variable	Estimate Variable	Measure	Source
	Reward	Dummy variable "1" if entrepreneur offers some sought of gifts to investors or "0" otherwise.	(Miller et al., 2019)
	Understandable	Dummy variable "1" for B2C or "0" for B2B firms.	(Miller et al., 2019)
	Geographical Location	Dummy variable "1" for London as location or "0" otherwise.	(Carbonara, 2021)
	Directors	Number of directors at the time of campaign.	(Hornuf et al., 2018; Signori and Vismara, 2016)
	Foreign Directors	Number of directors having foreign nationality	(Wiersema, 1993)
	Directors Prole	Dummy variable "1" for providing directors' profile or "0" otherwise.	(Anindyaswari and Wijaya, 2020; Bernardino and Santos, 2016)
	Pictures of Directors	Total pictures of directors on Crowdcube page of the campaign.	(Koch and Siering, 2015; Boeuf et al., 2014)
	Crowdfunding Experience	Dummy variable "1" for having crowdfunding experience or "0" otherwise.	(Lichtig, 2015)
	Social Forum	Total number of online social media accounts.	(Zheng et al., 2014; Belleflamme et al., 2013)
	Social Shares	Number of times the post has been shared.	(Martínez-Gómez et al., 2020)

Variable	Estimate Variable	Measure	Source
	Number of Likes	Total number of likes to the post of campaign on social accounts.	(Bi et al., 2017)
	Number of Comments	Total number of comments on campaign post.	(Bi et al., 2017)

3.2.3 Econometric Model

Based on literature review, following campaign characteristics, directors' characteristics and social network activities are introduced into the model to explore their impact on overfunding. As London is most important geographic location for businesses and more than half of the equity crowdfunding campaigns originate in London, the location of London is taken as campaign characteristic in predicting overfunding. In order to uncover more influencing factors in overfunding, comparative role of campaign characteristics, directors' information and social network activities is explored by examining combined impact on overfunding. Equation 3.2 represents multiple linear regressions model to explore combined impact of campaign characteristics, directors' information and social networks activities on overfunding.

$$\text{Overfunding}_i = \beta_0 + \beta_1\ \text{Equity}_i + \beta_2\ \text{Length of idea description}\ _i + \beta_3\ \text{Textual information}_i + \beta_4\ \text{Number of documents}\ _i + \beta_5\ \text{Financial Forecast}\ _i + \beta_6\ \text{Number of investors}_i + \beta_7\ \text{Reward}_i + \beta_8\ \text{Understandability}_i + \text{B}_9\ \text{London}_i + \beta_{10}\ \text{Number of directors}_i + \beta_{11}\ \text{Foreign directors}_i + \beta_{12}\ \text{Directors' description}_i + \beta_{13}\ \text{Pictures of directors}_i + \beta_{14}\ \text{Directors' CF experience}_i + \beta_{15}\ \text{Number of Social Forums}_i + \beta_{16}\ \text{Number of Shares}_i + \beta_{17}\text{Number of Likes}_i + \beta_{18}\ \text{Number of Comments}_i + \varepsilon_i \quad \text{(Eq. 3.2)}$$

Equation 3.3 explores combined impact of campaign characteristics, directors' information, social networks activities and interaction terms between quality signals and social networks activities on overfunding. Social network may provide first information to investors about a campaign and then investors may explore quality

signals to make investment decisions. So, to explore the moderating role of social network activities, two interaction terms between quality signals and social network activities are introduced in multiple linear regressions model.

Overfunding$_i$ = β_0 + β_1 Equity$_i$ + β_2 Length of idea description $_i$ + β_3 Textual information$_i$ + β_4 Number of documents $_i$ + β_5 Financial Forecasts $_i$ + β_6 Number of investors$_i$ + β_7 Reward$_i$ + β_8 Understandability$_i$ + B$_9$ London$_i$ + β_{10} Number of directors$_i$ + β_{11} Foreign directors$_i$ + β_{12} Directors' description$_i$ + β_{13} Pictures of directors$_i$ + β_{14} Directors' CF experience$_i$ + β_{15} Number of Social Forums$_i$ + β_{16} Number of Shares$_i$ + β_{17}Number of Likes$_i$ + β_{18} Number of Comments$_i$ + ε_i+ β_{19} Financial Forecast $_i$* Number of Social Forums$_i$ + β_{20} Number of directors$_i$ * Number of Likes$_i$ + ε_i (Eq. 3.3)

3.3 Impact of Campaign Success Factors on Firm Performance

3.3.1 Construction of the Sample

To explore the determinants of post campaign firm success, the sample includes 855 out of 910 equity crowdfunded firms from July 2011 to December 2022 in which 664 firms are active while 191 firms are non-active. 55 companies are excluded because of incomplete data. Data on asset growth to measure firm performance is obtained from Crowdcube from July, 2011 to December, 2022. To explore the determinants of post campaign asset growth, the sample includes only those firms are included who report at least three annual reports on Companies House after successful equity crowdfunding campaign. Average of annual asset growth is taken for regression analysis to explore the post campaign impact of success factors on firm performance. Data on campaign characteristics is collected from campaign page on Crowdcube and directors' information from Companies House. Data of social network activities is obtained from company's social pages on Facebook and Twitter. This study chooses Facebook and Twitter accounts for variable operationalization. It is because these are more widely used social networks and in our sample, highest number of campaigns uses these two social network accounts.

3.3.2 Definition of Variables

Brief definitions, measures and sources of variables in studying firm performance are given in Table 3.4.

TABLE 3.3: Definitions of Variables: Impact of Campaign Success Factors on Firm Performance

Variable	Estimate Variable	Measure	Source
Dependent Variable	Firm Survival	Dummy variable "1" for active status or "0" for dissolved firm.	(Kassim et al., 2020; Brown et al., 2019)
	Asset Growth	Average of yearly asset growth.	(Eldridge et al., 2021; Décarre and Wetterhag, 2014)
Independent Variable	Equity Offered	Percentage of target amount contributed by entrepreneurs.	(Di Pietro et al., 2023; Ahlers et al., 2015)
	Overfunding	Percentage to the target amount that has been raised.	(Martínez-Gómez et al., 2020; Gabison, 2014)
	Documents	Number of documents provided on Crowdcube.	(Mollick, 2014)
	Investors	Total number of investors.	(Lukkarinen et al., 2016; Vulkan et al., 2016)
	Largest Investment	Largest amount offered from single investor i.e venture capital.	(Vulkan et al., 2016; Décarre and Wetterhag, 2014)
	Business Followers	Total followers of firm on Crowdcube page.	(Aprilia and Wibowo, 2016)

Variable	Estimate Variable	Measure	Source
	Directors	Number of directors at the time of campaign.	(Martínez-Gómez et al., 2020; Hornuf et al., 2018)
	Foreign Directors	Number of directors having foreign nationality	(Wiersema, 1993)
	Directors Prole	Dummy variable "1" for providing directors' profile or "0" otherwise.	(Anindyaswari and Wijaya, 2020; Martínez-Gómez et al., 2020)
	Crowdfunding Experience	Dummy variable "1" for having crowdfunding experience or "0" otherwise.	(Lichtig, 2015)
	Social Forum	Total number of online social media accounts.	(Kassim et al., 2020; Belleflamme et al., 2013)
	Social Followers	Total number of followers on social media.	(Hornuf et al., 2018; Aprilia and Wibowo, 2016)
	Social Shares	The number of times the post of campaign has been shared.	(Martínez-Gómez et al., 2020; Bi et al., 2017)
	Social Activeness	Dummy variable "1" for active social media accounts or "0" otherwise.	(Nevin et al., 2017)

3.3.3 Econometric Model

To explore the role of success factors in post campaign firm survival, logit regression is used to build a model for exploring relationship between dependent and independent variables because dependent variable is binary variable. Where

dependent variable is binary variable, logit regression analysis explains the impact of independent variables on dependent variable (Cumming and Johan, 2013). Following are the econometric models for logit regression analysis. Equation 3.4 is a logit regression model to explore combined impact of campaign characteristics, directors' characteristics and social network activities on firm survival to uncover most influencing factors in post campaign firm survival.

$$\text{Survival}_i = \beta_0 + \beta_1\ \text{Equity}_i + \beta_2\ \text{Overfunding}_i + \beta_3\ \text{Documents}_i + \beta_4\ \text{Investors}_i + \beta_5\ \text{Largest Investment}_i + \beta_6\ \text{Business Followers}_i + \beta_7\ \text{Directors}_i + \beta_8\ \text{Foreign Directors}_i + \beta_9\ \text{Directors' Profile}_i + \beta_{10}\ \text{CF Experience}_i + \beta_{11}\ \text{Social Forums}_i + \beta_{12}\ \text{Social Followers}_i + \beta_{13}\ \text{Social Shares}_i + \beta_{14}\ \text{Social Activeness}_i + \varepsilon_i \quad \text{(Eq. 3.4)}$$

Equation 3.5 describes multiple linear regressions model to explore the impact of campaign characteristics, directors' characteristics and social network activities on Asset Growth. Equation 3.5 is a multiple linear regressions model designed to explore combined impact of campaign characteristics, directors' characteristics and social networks activities on post campaign asset growth. Combined impact is helpful to define comparative role of success factors on post campaign asset growth.

$$\text{Asset Growth}_i = \beta_0 + \beta_1\ \text{Equity}_i + \beta_2\ \text{Overfunding}_i + \beta_3\ \text{Documents}_i + \beta_4\ \text{Investors}_i + \beta_5\ \text{Largest Investment}_i + \beta_6\ \text{Business Followers}_i + \beta_7\ \text{Directors}_i + \beta_8\ \text{Foreign Directors}_i + \beta_9\ \text{Directors' Profile}_i + \beta_{10}\ \text{CF Experience}_i + \beta_{11}\ \text{Social Forums}_i + \beta_{12}\ \text{Social Followers}_i + \beta_{13}\ \text{Social Shares}_i + \beta_{14}\ \text{Social Activeness}_i + \varepsilon_i \quad \text{(Eq. 3.5)}$$

3.4 Mediating Role of Crowdfunding Between Success Factors and Firm Performance

3.4.1 Construction of the Sample

To explore mediating role of crowdfunding in the relationship between campaign characteristics and firm performance, data has been obtained from Crowdcube from July, 2011 to December, 2022. Firm performance has been measured with post campaign firm status on Crowdcube either active or dissolved (Walthoff-Borm et al.,

2018). The sample includes 825 firms out of 910 equity crowdfunded firms from July, 2011 to December, 2022. 85 firms have been excluded because of missing data of variables. Data on campaign characteristics and mediator has been collected from firm page on Crowdcube.

3.4.2 Definition of Variables

Table 3.4 shows dependent and independent variables in studying mediation along with brief definitions, measures and sources of variables.

TABLE 3.4: Definitions of Variables: Mediating Role of Crowdfunding

Variable	Estimate Variable	Measure	Source
Dependent Variable	Firm Survival	Dummy variable "1" for active status or "0" for dissolved firm.	(Kassim et al., 2020; Brown et al., 2019)
Mediator	Crowdfunding	Total amount raised in crowdfunding campaign	(Anindyaswari and Wijaya, 2020; Lukkarinen et al., 2016)
Independent Variable	Equity Offered	Percentage of target amount contributed by entrepreneurs.	(Di Pietro et al., 2023; Ahlers et al., 2015)
	Investors	Total number of investors.	(Lukkarinen et al., 2016; Vulkan et al., 2016)
	Largest Investment	Largest amount offered from single investor i.e. venture capital.	(Vulkan et al., 2016)
	Business Followers	Total number of followers on Crowdcube platform.	(Aprilia and Wibowo, 2016)
	Social Followers	Total number of followers on social media.	(Hornuf et al., 2018)

3.4.3 Econometric Model

To explore the mediating role of crowdfunding between relationship of campaign characteristics and firm performance, firm survival is taken as measure of firm performance. In the light of Baron and Kenny (1986) assumptions, econometric models from 3.6 to 3.9 are designed to explain the mediating role of crowdfunding in the relationship between crowdfunding campaign characteristics and firm performance. Due to binary outcome in this mediation model, casual mediation analysis approach is applied that allows to test mediation model with binary outcome with same assumptions of mediation (Rijnhart et al., 2023). Direct and indirect effect has also been confirmed by using Hayes Process Macros in SPSS (Preacher and Hayes, 2004).

$$\text{Survival}_i = \beta_0 + \beta_1\ \text{Equity}_i + \beta_2\ \text{Investors}_i + \beta_3\ \text{Largest Investment}_i + \beta_4\ \text{Business Followers}_i + \beta_5\ \text{Social Followers}_i + \varepsilon_i \quad \text{(Eq. 3.6)}$$

$$\text{Crowdfunding}_i = \beta_0 + \beta_1\ \text{Equity}_i + \beta_2\ \text{Investors}_i + \beta_3\ \text{Largest Investment}_i + \beta_4\ \text{Business Followers}_i + \beta_5\ \text{Social Followers}_i + \varepsilon_i \quad \text{(Eq. 3.7)}$$

$$\text{Survival}_i = \beta_0 + \beta_1\ \text{Crowdfunding}_i + \varepsilon_i \quad \text{(Eq. 3.8)}$$

$$\text{Survival}_i = \beta_0 + \beta_1\ \text{Equity}_i + \beta_2\ \text{Investors}_i + \beta_3\ \text{Largest Investment}_i + \beta_4\ \text{Business Followers}_i + \beta_5\ \text{Social Followers}_i + \beta_6\ \text{Crowdfunding}_i + \varepsilon_i \quad \text{(Eq. 3.9)}$$

3.5 Comparison of Performances OF Crowdfunded and Non-Crowdfunded Firms

3.5.1 Construction of the Sample

To compare the performance of crowdfunded firms with non-crowdfunded firms, data of crowdfunded firms has been collected from Crowdcube and data of non-crowdfunded firms has been collected from Orbis Europe database managed by Companies House that has high quality data of private and public traded European firms. Sample includes 625 firms out of 750 firms from July, 2011 to December,

2021 where 450 are crowdfunded firms and 175 are non-crowdfunded firms. 125 firms have not been included in sample because of missing data of variables.

3.5.2 Definition of Variables

Definitions, measures and sources of dependent and independent variables in performances comparison are given in Table 3.5.

TABLE 3.5: Definitions of Variables: Comparison of Performances

Variable	Estimate Variable	Measure	Source
Dependent Variable	Firm Survival	Dummy variable "1" for active status or "0" for dissolved firm.	(Kassim et al., 2020; Brown et al., 2019)
Independent Variable	Funding Source	Dummy variable "1" equity crowdfunding or "0" otherwise.	(Anindyaswari and Wijaya, 2020; Lukkarinen et al., 2016)
Control Variable	Equity Offered	Percentage of target amount contributed by entrepreneurs.	(Di Pietro et al., 2023; Ahlers et al., 2015)
	Investors	Total number of investors.	(Lukkarinen et al., 2016; Vulkan et al., 2016)
	Largest Investment	Largest amount offered from single investor i.e. venture capital.	(Vulkan et al., 2016)
	Business Followers	Total number of followers on Crowdcube platform.	(Aprilia and Wibowo, 2016)
	Social Followers	Total number of followers on social media.	(Hornuf et al., 2018)

3.5.3 Econometric Model

To explore the impact of crowdfunding on firm performance, the comparison is made between crowdfunded and non-crowdfunded firms through equation 3.10. Firm survival has been taken as measure of firm performance and the impact of crowdfunding is observed by using binary variable. Equity crowdfunded firm performances are better than non-crowdfunded firms. The following logit regression model explains the relationship between dependent and independent variables along with impact of control variables.

$\text{Survival}_i = \beta_0 + \beta_1 \text{ Funding Source}_i + \beta_2 \text{ Equity}_i + \beta_3 \text{ Investors}_i + \beta_4 \text{ Largest Investment}_i + \beta_5 \text{ Business Followers} + \beta_6 \text{ Social Followers}_i + \varepsilon_i$ (Eq. 3.12)

(Where, "Funding Source" is a binary variable where its value is "1" for crowdfunded firm and "0" for non-crowdfunded firms.)

3.6 Impact of Successive Round on Investors' - Trust

3.6.1 Construction of the Sample

Data for impact of successive round on investors' trust is obtained from Crowdcube from July, 2011 to December, 2022. To explore the impact of successive equity crowdfunding campaigns on fund-raising, high targets success, overfunding, equity offered, number of investors and largest investment, the sample includes 1081 equity crowdfunded campaigns from July 2011 to December, 2022. 43 companies are excluded because of incomplete data. This study uses data on campaign characteristics from campaign page on Crowdcube.

3.6.2 Definition of Variables: Impact of Successive Round on Investors' Trust

Table 3.6 shows dependent and independent variables of successive round in investors' trust along with brief definitions, measures and sources of variables.

TABLE 3.6: Definitions of Variables: Impact of Successive Round on Investors' Trust

Variable	Estimate Variable	Measure	Source
Dependent Variable	Target	Amount to be raised in equity crowdfunding campaign.	(Di Pietro et al., 2023; Mollick, 2014)
	Fund Raised	Logarithmic transformation of total fund raised in campaigns.	(Di Pietro et al., 2023; Butticè et al., 2020)
	Overfunding	Percentage to the target amount that has been raised against target.	(Martínez-Gómez et al., 2020; Gabison, 2014)
	Equity	Percentage of target amount from entrepreneurs.	(Di Pietro et al., 2023; Ahlers et al., 2015)
	Investors	Total number of investors	(Lukkarinen et al., 2016; Vulkan et al., 2016)
	Largest Investment	Largest amount offered from single investor i.e venture capital.	(Di Pietro et al., 2023; Butticè et al., 2020)
Independent Variable	Successive Round	Subsequent equity crowdfunding campaign after successful campaign. It is measured by numbering the successful campaigns by date.	(Butticè et al., 2020; Vismara, 2018a)
Control Variables	Idea Explanation	Number of words in idea description.	(Dorfleitner et al., 2018; Koch and Siering, 2015)

Variable	Estimate Variable	Measure	Source
	Documents	Number of documents provided on Crowdcube page.	(Anindyaswari and Wijaya, 2020; Mollick, 2014)
	Financial Forecast	Dummy variable "1" for providing financial forecast or "0" otherwise.	(Anindyaswari and Wijaya, 2020; Lukkarinen et al., 2016)
	Directors	Number of directors at the time of campaign	(Martínez-Gómez et al., 2020; Hornuf et al., 2018)
	Foreign Directors	Number of directors having foreign nationality	(Wiersema, 1993)
	Crowdfunding Experience	Dummy variable "1" for having crowdfunding experience or "0" otherwise.	(Lichtig, 2015)
	Social Forum	Total number of online social media accounts	(Kassim et al., 2020; Belleflamme et al., 2013; Zheng et al., 2014)

Entrepreneurs thus need way to communicate investors about quality of venture with the help of quality signals in order to attract investors' attention (Mollick, 2014). Researchers identify number of quality signals that can lead the venture to successful fund raising (Di Pietro et al., 2023; Lim and Busenitz, 2020; Bapna, 2019; Bernstein et al., 2017; Ahlers et al., 2015). Quality signals develop investors' trust that results in successful crowdfunding campaign. Companies with successful equity crowdfunding campaigns have higher probability of attracting successive financing from crowd investors an also from venture capital (Butticè et al., 2020; Signori and Vismara, 2018). It means successive round enhance investors' trust on firms that results in high magnitude of success factors and also successful high

target equity crowdfunding campaigns. To explore impact of successive round on investors' trust, following success factors are explored as dependent variables.

3.6.3 Econometric Model

This study uses multiple linear regressions to build models for exploring the role of successive equity crowdfunding campaigns in developing investors' trust that may results in high or low magnitude of success factors and high fund-raising. Successive round is independent variable and its impact on success factors is examined to capture investors' trust as a result of subsequent equity crowdfunding round. Investor's trust makes investor to take investment decision in a particular equity crowdfunding campaign. Thus, it may result in high target success, high fund raising, high overfunding, large number of investors and large investments from venture capitals even with low level of equity offering. So, in studying impact of successive round, investor's trust has been measured with target, fund raised, overfunding, level of equity, number of investors, and largest investment.

Equation 3.11 describes the impact of successive equity crowdfunding campaign on target. Investors' trust helps to achieve high funding target successfully. Four control variables are introduced in the model from previous studies in the context of success factors in crowdfunding. Logarithmic transformation of target amount is used in the model to improve fit of the model.

$$\text{Target}_i = \beta_0 + \beta_1 \text{ Successive Round}_i + \beta_2 \text{ Financial Forecast}_i + \beta_3 \text{ Directors}_i + \beta_4 \text{ CF Experience}_i + \beta_5 \text{ Social Forums}_i + \varepsilon_i \quad \text{(Eq. 3.11)}$$

Equation 3.12 explains the impact of successive equity crowdfunding campaign on fund raised. Investors' trust on equity crowdfunding campaign helps to achieve high fund-raising against the target successfully. Four control variables are introduced in the model from previous literature in the context of success factors in crowdfunding. This model uses logarithmic transformation of fund raised because it reduces variables' skewness and improves fit of the model.

$$\text{Fund Raised}_i = \beta_0 + \beta_1 \text{ Successive Round}_i + \beta_2 \text{ Target}_i + \beta_3 \text{ Idea Explanation}_i + \beta_4 \text{ Directors}_i + \beta_5 \text{ Investors}_i + \varepsilon_i \quad \text{(Eq. 3.12)}$$

Equation 3.13 is designed to explore the impact of successive equity crowdfunding campaign on overfunding. Investors' trust on a firm and project influence investors investment decision that results in overfunding of a campaign. It is because investors feel the project quality and offer their investments even more than the target amount. Overfunding is percentage to target amount requested in a campaign. Four control variables are introduced in the model from previous studies in the context of success factors in crowdfunding.

$$\text{Overfunding}_i = \beta_0 + \beta_1 \text{ Successive Round}_i + \beta_2 \text{ Target}_i + \beta_3 \text{ Directors}_i + \beta_4 \text{ Largest Investment}_i + \beta_5 \text{ Investors}_i + \varepsilon_i \quad \text{(Eq. 3.13)}$$

Equation 3.14 explores the impact of successive equity crowdfunding campaign on equity. Strong quality signals help entrepreneurs to get successful equity crowdfunding campaign with low equity offering in project by entrepreneurs. Successive equity crowdfunding round develops investors' trust that results in less equity need by entrepreneurs. Four control variables are introduced in the model on the basis of previous studies in the context of success factors in crowdfunding.

$$\text{Equity}_i = \beta_0 + \beta_1 \text{ Successive Round}_i + \beta_2 \text{ Target}_i + \beta_3 \text{ Directors}_i + \beta_4 \text{ Foreign Directors}_i + \beta_5 \text{ Social Forums}_i + \varepsilon_i \quad \text{(Eq. 3.14)}$$

Equation 3.15 is designed to measure the impact of successive equity crowdfunding campaign on number of investors. Quality signals enhance investors' trust on a firm that results in high number of investors who offer investment in the campaign. Four control variables are included in the model fro literature of success factors.

$$\text{Investors}_i = \beta_0 + \beta_1 \text{ Successive Round}_i + \beta_2 \text{ Directors}_i + \beta_3 \text{ Financial Forecast}_i + \beta_4 \text{ Largest Investment}_i + \beta_5 \text{ Social Forums}_i + \varepsilon_i \quad \text{(Eq. 3.15)}$$

Equation 3.16 explores the impact of successive equity crowdfunding campaign on single largest investment. Largest investment may show the presence of angel investors and venture capital. Successive equity crowdfunding campaign develops investors' trust and attracts more large investments in subsequent crowdfunding rounds. This model uses logarithmic transformation of largest investment because it reduces variables' skewness and improves fit of the model.

$$\text{Largest Investment}_i = \beta_0 + \beta_1 \text{ Successive Round}_i + \beta_2 \text{ Idea Explanation}_i + \beta_3 \text{ Documents}_i + \beta_4 \text{ Directors}_i + \beta_5 \text{ Foreign Directors}_i + \varepsilon_i \quad \text{(Eq. 3.16)}$$

3.7 Methodology

3.7.1 Multivariate Regression Analysis

This study has used ordinary least square (OLS) regression with robust standard error in multiple linear regressions analysis to build the model for testing hypothesis of the study where the dependent variable is continuous variable (Vu and Christian, 2023; Lukkarinen and Schwienbacher, 2023; Cerpentier et al., 2022). This study has also used logit regression analysis to build model for testing hypothesis where dependent variable is binary variable (Baber and Fanea-Ivanovici, 2023; Vu and Christian, 2023; Johan and Zhang, 2020). Regression analysis explains cause and effect relationship between dependent and independent variables. OLS regression analysis is used to explore the predictor of campaign success, overfunding, asset growth, target, fund raised, equity, number of investors and largest investment in equity crowdfunding. Logit regression analysis is used to explore mediation in firm performance, comparison of performances and to explore predictor of firm survival in equity crowdfunding. It is because firm survival is binary variable which is measured with only two values. It is given value "1" where firm status is active otherwise given "0". So, logit regression is used to explain relationship between dependent and independent variables where dependent variable is binary variable. This study uses EViews statistical analysis software for OLS regression (Shagerdi et al., 2023; Mamaro and Sibindi, 2022) and logit regression analysis and SPSS statistics software for testing mediation (Jamil et al., 2023; Safitri and Rita, 2022).

3.8 Summary of the Chapter

This chapter presents details about sample size and data collection with the sources from where data is collected. Definitions and measurement of all dependent and independent variables are discussed in this chapter. Furthermore, detail discussion regarding methodology of the study and statistical software to be used for empirical analysis is presented. This chapter also includes econometric models to test hypothesis of this study.

Chapter 4

Empirical Results and Discussion

4.1 Introduction

In this chapter, empirical results regarding determinants of campaign success, overfunding, post campaign firm performance and investors' trust are discussed. First section presents descriptive and correlation analysis of all variables of the study. While in second section, empirical results and discussion of multivariate regression analysis of all econometric models are presented. Results of regression assumptions tests are also discussed in this chapter for validity of regression analysis.

4.2 Determinants of Success of Crowdfunding-Campaign

4.2.1 Description Analysis

Descriptive analysis describes basic behavior and main features of the data of the study, and also provides summary of descriptive statistics about sample and applied measurements. Table 4.1 provides descriptive statistics of determinants of success of crowdfunding campaign. Mean value of success shows that numbers of successful campaigns are increasing against unsuccessful campaigns. Target ranges have huge diversity in the needs of fund by different entrepreneurs but

entrepreneurs have understood the importance of equity in campaign success by contributing a healthy share in campaigns. Mean of video shows that very few campaigns have not provided video message in campaigns. Similarly entrepreneurs have also understood the importance of social media for campaign success and high mean shows that high numbers of campaigns have used social media for successful campaigns.

TABLE 4.1: Descriptive Statistics: Determinants of Success of Crowdfunding Campaign

Variables	**Observations**	**Mean**	**Max**	**Min**	**Std. Dev.**
Success	750	0.730524	1	0	0.443971
Equity	750	14.86814	54.27	1.75	8.079973
Target	750	396063.8	20000000	12000	843382.4
Largest Investment	750	135215.2	3800000	1000	317980.1
Documents	750	2.618135	13	0	1.723474
Video	750	0.975734	1	0	0.153971
Updates	750	12.19413	71	0	9.105835
Business Followers	750	769.931	17350	1	1758.563
Social Media Presence	750	0.936143	1	0	0.244654

4.2.2 Correlation Analysis

Literature reveals that campaign characteristics influence campaign success positively. It is because campaign characteristics are read by investors as quality signals while taking investment decisions. Correlation analysis not only can predict the significant factors and explains the direction of relationship between dependent and independent variables but also provide a check on independent variables. Independent variables must not be highly correlated when regress to explore their impact on dependent variables. Correlation between variables of determinants of success of crowdfunding campaign Table 4.2 shows that campaign characteristics are positively correlated with campaign success, thus support first hypothesis of the study. Independent variables are not highly correlated with each other and can be regress to investigate their impact on dependent variable.

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Table 4.2: Correlations of Variables: Determinants of Success of Crowdfunding Campaign

Variables	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Success of Crowdfunding Campaign	1								
Equity	0.358***	1							
Target	0.164***	-0.095***	1						
Largest Investment	0.167***	0.006*	0.394***	1					
Documents	0.174***	-0.510	0.037	0.079**	1				
Video	0.147***	0.069*	-0.147***	0.043	0.114***	1			
Updates	0.066***	-0.097***	-0.018	0.007	0.269***	0.103***	1		
Business Followers	0.157***	-0.057	0.269***	0.222***	0.113***	0.020	-0.026	1	
Social Media Presence	0.123***	-0.064*	0.057	0.050	0.275***	0.196***	0.153***	0.101***	1

4.2.3 Results: Determinants of Success of Crowdfunding Campaign

This study estimates the impact of campaign characteristics on equity crowdfunding campaign success. Table 4.3 shows the results of regression analysis between dependent and independent variables (beta coefficient with level of significance, robust standard error in parenthesis and marginal effects). Logit regression analysis in Model 1 and linear regression analysis in Model 2 are used to explore the relationship between campaign characteristics and campaign success.

Model 1 shows the relationship between campaign characteristics and campaign success. Pseudo R^2 (McFadden R^2) is 0.39 with Wald Chi Square value 153.9 significant ($p<0.01$). Hensher and Stopher (2021) has recommended that value of pseudo R^2 ranging from 0.2 to 0.4 indicates good model fit. Beta coefficients of equity, target, largest investment, documents, updates and social media presence are positive and significant ($p<0.01$) in campaign success. Martínez-Gómez et al. (2020) as well find significant results in studying impact of campaign characteristics. Bi et al. (2017) also conclude significant impact of social media presence in campaign success. Beta coefficients for video and business followers are insignificant in campaign success. Marginal Effects are calculated to analyze the strength of association between dependent and independent variables. Marginal effects are 19.1 percent for equity, -0.01 percent for target, 0.06 percent for largest investment, 29.5 percent for documents, 2.81 percent for updates and 67.2 percent for social media presence.

Model 2 is explaining 88.3 percent variance in number of investors with F value 745.581 ($p<0.01$). Beta coefficients are 2.874 for equity, 0.002 for target 0.001 for largest investment, 0.161 for documents, 0.245 for business followers, and 7.823 for social media presence. These beta coefficients are positive and significant ($p<0.01$) in number of investors. Koch and Siering (2015); Ahlers et al. (2015) suggest significant impact of quality signals on number of investors. Anindyaswari and Wijaya (2020); Lukkarinen et al. (2016) also find significant results in studying impact of campaign characteristics on number of investors. Beta coefficients for video and updates are insignificant in number of investors.

TABLE 4.3: Determinants of Success of Crowdfunding Campaign

Main Variables	**Estimate Variables**	**Model 1 Campaign Success**	**Marginal Effects**	**Model 2 Number of Investors**	**VIF**
Campaign Characteristics	Equity	0.208***	0.191	2.874***	1.03
		(0.021)		(2.212)	
	Target	-1.27E-06**	-1.10E-06	0.002***	1.29
		(6.13E-07)		(2.37E-05)	
	Largest Investment	6.75E-06***	6.20E-06	0.001***	1.22
		(2.19E-06)		(0.001)	
	Documents	0.322***	0.295	0.161**	1.16
		(0.078)		(11.026)	
	Video	1.007	0.921	2.991	1.09
		(0.64)		(1.119)	
	Updates	0.031**	0.028	1.071	1.1
		(0.013)		(2.301)	
	Business Followers	0.001	0.001	0.245***	1.11
		(0.001)		(0.011)	
	Social Media Presence	0.735***	0.672	7.823**	1.13
		(0.429)		(7.665)	
Summary of the Model	F			745.581***	
	Pseudo - R^2/ ΔR^2	0.39		0.883	
	Wald Chi Square	153.940***			

Standard error in parenthesis
****p<0.01, **p<0.05, *p<0.1*

4.2.4 Discussion: Determinants of Success of Crowdfunding Campaign

This research work has investigated factors behind a successful equity crowdfunding campaign by observing the impact of campaign characteristics in equity crowdfunding campaign success with logit regression model and in attracting large number of investors with OLS regression model. Pseudo R^2 (0.39) of logit regression suggests that model is good fit because Hensher and Stopher (2021) has recommended that value of pseudo R^2 ranging from 0.2 to 0.4 indicates good model fit. Variance of the inflation factor (VIF) is used to check multicollinearity among the independent variables. If VIF>10, it indicates severe multicollinearity between the independent variables (Cohen et al., 2013; Kleinbaum et al., 1988). VIF values of all explanatory variables are far below 10 thus; confirm no severity of multicollinearity in explanatory variables.Overall campaign characteristics are positive and significant in equity crowdfunding campaign success and influencing large number of investors to invest in equity crowdfunding campaign.

Equity offered shows entrepreneurial commitment thus, positively influence campaign success and number of investors in an equity crowdfunding campaign. Marginal effects of logit regression indicate that increase in independent variables increase the probability of campaign success. Thus, with the increase in equity offered by one percent, there is increase in probability of campaign success by 19.1 percent. Largest investment shows the presence of professional investors and venture capital thus, works as quality signal. There is increase in probability of campaign success with the increase in largest investment. Largest investment also influences investors' investment decision that may results in large number of investors. Provision of an additional documents increase the probability of success by 29.5 percent. Documents with financial forecast enable the investors to assess business growth ability of a firm thus, may result in campaign success and large number of investors. Provision of video message in crowdfunding campaign does not influence campaign success or number of investors.

Updates are given by entrepreneurs to investors during and after campaign. There is increase in probability of campaign success with the increase in updates but

there is no significance of updates in number of investors. Business followers show reviewers trust on a campaign and attracts large number of investor but it is not significant in campaign success. Thus, with the increase in business followers, there is increase in number of investors. Social media presence create herding effect about a campaign thus, has significant impact on campaign success and number of investors. There is increase in probability that a campaign gets success by 67.2 percent with presence of equity campaign on social media. The association of social media presence is also significant with number of investors in a campaign as increase in social media presence results in the increase of number of investors. These results are very significant in supporting the first hypothesis of the study H1, that campaign characteristics positively influence campaign success. Findings of this empirical analysis also corroborate the results of previous researches in the field of reward-based and equity crowdfunding. These findings are consistent with the findings of previous researches in the context of campaign success by Martínez-Gómez et al. (2020); Bi et al. (2017),Quality signals in crowdfunding by Koch and Siering (2015); Ahlers et al. (2015), crowdfunding phenomenon and success factors by Mollick (2014); Mollick and Nanda (2016), large investments by angel investors, financial motivation, online information and effective signals in crowdfunding by Cholakova and Clarysse (2015); Vukovic et al. (2010); Chen et al. (2009); Levie and Gimmon (2008).

4.3 Impact of Factors of Crowdfunding Success on Overfunding

4.3.1 Description Analysis

Descriptive analysis describes basic behavior and main features of the data of the study, and also provides summary of descriptive statistics about sample and applied measurements. Summary of descriptive statistics of all variables for impact of factors of crowdfunding success on overfunding is presented in Table 4.4. Mean value of overfunding confirms that considerable overfunding is associated with high number of campaigns. Mean value of financial forecast indicates that almost half

of campaigns fail to provide forecasted financial statements. Standard deviation of number of investors shows huge diversity in the investors towards campaigns because some campaigns attract few investors but other campaigns attract huge number of investors. Similarly entrepreneurs have also understood the importance of social media for overfunding and mean shows that campaigns have used more than one social media forums for overfunding in campaigns.

TABLE 4.4: Descriptive Statistics: Factors of Crowdfunding Success on Overfunding

Variables	**Observations**	**Mean**	**Maximum**	**Minimum**	**Std. Dev.**
Overfunding	783	154.3014	841	100	75.07850
Equity	783	14.86814	54.27	1.02	8.079973
Idea Explanation	783	1111.428	3813	0	653.2306
Textual Information	783	0.821201	1	0	0.383429
Documents	783	22.98084	170	1	23.54092
Financial Forecast	783	0.550447	1	0	0.497767
Investors	783	484.5185	35899	7	726.7055
Reward	783	0.787724	1	0	0.409181
Understandability	783	0.757033	1	0	0.429150
London (Location)	783	0.550447	1	0	0.497767
Directors	783	2.945083	15	1	1.943788
Foreign Dir.	783	0.957854	10	0	1.433794
Directors' Profile	783	0.664112	1	0	0.472602
Pictures of Directors	783	2.876117	16	0	2.508039
Crowdfunding Experience	783	0.266922	1	0	0.442634
Social Forum	783	2.833972	5	0	1.135577
Social Shares	783	11.06641	193	0	18.39133
Number of likes	783	85.20690	2228	0	177.3716
Number of Comments	783	13.17752	207	0	24.58188

4.3.2 Correlation Analysis

Literature reveals that campaign characteristics influence overfunding positively. It is because campaign characteristics work as quality signals investors take investment decisions. Correlation analysis not only can predict the significant factors and explains the direction of relationship between dependent and independent variables but also provide a check on independent variables. Independent variables must not be highly correlated when regress to explore their impact on dependent variables.

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Table 4.5: Correlation of Variables: Factors of Crowdfunding Success in Overfunding

Variables	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Overfunding	1									
Equity	0.077***	1								
Idea Explanation	0.276***	0.115***	1							
Textual Information	0.323***	0.062*	0.126***	1						
Documents	0.450***	-0.178***	0.141***	0.129***	1					
Financial Forecast	0.342***	0.141***	0.384***	0.295***	0.159***	1				
Investors	0.211***	-0.089	-0.003	-0.003	0.305***	0.067*	1			
Reward	0.032	0.037	-0.020	0.051	-0.014	0.096***	-0.028	1		
Understandability	-0.018	.0101	-0.0490	0.085**	-0.057	0.057	-0.091**	0.238***	1	
London (Location)	0.252***	-0.020	.147***	0.108***	0.131***	0.170***	0.028	0.116	0.010	1
Directors	0.472***	-0.080**	0.230***	0.103***	0.557***	0.195***	0.253***	-0.069*	-0.033	0.097***
Foreign Dir.	0.386***	-0.068*	0.219***	0.070**	0.355***	0.141***	0.186***	0.059*	-0.028	0.288***
Directors' Profile	0.364***	0.081**	0.276***	0.408***	0.133***	0.329***	0.025	0.001	0.057	0.152***
Pictures of Directors	0.318***	-0.106***	-0.128***	0.264***	0.230***	0.110***	0.121***	0.086**	0.089**	0.089***
Crowdfunding Experience	0.345***	-0.204***	0.038	0.078**	0.423***	0.087**	0.210***	-0.047	-0.021	0.109***

Variables	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Social Forum	0.438***	-0.019	0.088**	0.364***	0.267***	0.255***	0.121***	0.137***	0.119***	0.195***
Social Shares	0.407***	-0.019	0.115***	0.191***	0.285***	0.208***	0.156***	0.151***	0.086**	0.069**
Number of likes	0.411***	-0.066*	0.109***	0.181***	0.248***	0.197***	0.170***	0.075**	0.070**	0.094***
Number of Comments	0.397***	-0.040	0.104***	0.123***	0.291***	0.166***	0.269***	0.165***	0.062*	0.079**

Variables	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**
Directors	1								
Foreign Dir.	0.386***	1							
Directors' Profile	0.128***	0.140***	1						
Pictures of Directors	0.171***	0.117***	0.171***	1					
Crowdfunding Experience	0.344***	0.174***	0.173***	0.242***	1				
Social Forum	0.253***	0.215***	0.349***	0.305***	0.199***	1			
Social Shares	0.257***	0.149***	0.186***	0.239***	0.174***	0.295***	1		
Number of likes	0.229***	0.137***	0.168***	0.237***	0.171***	0.254***	0.645***	1	
Number of Comments	0.247***	0.191***	0.108***	0.175***	0.159***	0.242***	0.636***	0.582***	1

Table 4.5 shows that correlations between dependent and independent variables of overfunding are significant and positive except two independent variables reward and understandability. Campaign characteristics, directors' information and social network activities except reward and understandability have positive influence on overfunding. Correlations analysis therefore supports second hypothesis of the study. Moreover, independent variables are not highly correlated with each other and can be regress to investigate their impact on dependent variable.

4.3.3 Results: Impact of Factors of Crowdfunding Success on Overfunding

This study estimates the impact of campaign characteristics, directors' information and social network activities on overfunding. Linear regression analysis is used to explore the relationship between three sets of variables and overfunding. Table 4.6 shows the results of regression analysis between dependent and independent variables (beta coefficient with level of significance and robust standard error in parenthesis). Model 1 shows that campaign characteristics are explaining 36.2 percent variance in overfunding F value 52.09 significant ($p<0.01$). Beta coefficients are 1.016 for equity, 39.600 for textual information, 0.013 for length of idea description, 1.135 for number of documents, 20.713 for financial forecast and 21.523 for London. These beta coefficients are positive and significant ($p<0.01$) in overfunding. Beta coefficient for number of investors, reward and understandability are insignificant in overfunding. Directors' information variables in Model 2 are explaining 39.8 percent variance in overfunding with F value 104.229 ($p<0.01$). Beta coefficients are 11.299 for number of directors, 10.364 for number of foreign directors, 39.209 for directors' description, 5.162 for number of pictures and 21.367 for directors' crowdfunding experience. These beta coefficients are positively significant ($p<0.01$) in overfunding. Social network activities in Model 3 are explaining 31.3 percent variance in overfunding with F value 90.035 ($p<0.01$). Beta coefficients are 21.622 for number of social forums, 0.417 for number of shares, 0.074 for number of likes on social media and 0.463 for number of comments on social media. These beta coefficients are positively significant ($p<0.01$) in overfunding.

Table 4.6: Impact of Factors of Crowdfunding Success on Overfunding

Main Variables	Estimate Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	VIF
Campaign Characteristics	Equity	1.016***			1.298***	1.376***	1.077***	1.411
		(0.301)			(0.279)	(0.272)	(0.237)	
	Textual Information	39.600***			23.458***	15.455***	23.999***	1.637
		(3.343)			(4.059)	(4.29)	(3.225)	
	Idea Explanation	0.013***			0.009***	0.009**	0.006**	1.872
		(0.004)			(0.004)	(0.004)	(0.003)	
	Documents	1.135***			0.459**	0.327**	0.206**	1.563
		(0.235)			(0.174)	(0.148)	(0.116)	
	Financial Forecast	20.713***			13.413***	9.959***	41.702***	1.52
		(4.095)			(3.827)	(3.674)	(12.069)	
	Investors	0.005			0.002	0.001	0.001	1.316
		(0.005)			(0.003)	(0.002)	(0.002)	
	Reward	0.534			2.667	4.551	-3.968	1.269
		(5.101)			(4.842)	(4.454)	(4.062)	
	Understandability	-3.775			-7.694	-11.646***	-11.535***	1.301
		(5.765)			(5.276)	(4.896)	(4.269)	

Main Variables	Estimate Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	VIF
Directors' Information	London (Location)	21.523***			13.282***	11.680***	7.716***	1.112
		(3.451)			(3.184)	(3.118)	(3.932)	
	Directors		11.219***		7.551***	6.134***	23.287***	1.361
			(2.456)		(2.252)	(1.962)	(5.16)	
	Foreign Directors		10.364***		7.196***	6.708***	5.177***	1.121
			(2.249)		(2.007)	(1.89)	(1.777)	
	Directors' Profile		39.209***		20.340***	15.080***	17.483***	1.554
			(3.369)		(3.735)	(3.714)	(3.288)	
	Pictures of Directors		5.162***		4.704***	3.267***	3.149***	1.453
			(1.079)		(1.098)	(0.988)	(0.859)	
	CF Experience		21.367***		20.581***	19.361***	15.889***	1.249
			(5.141)		(4.939)	(4.719)	(4.352)	
Social Network Activities	Social Forums			21.622***		8.856***	23.595***	1.535
				(2.41)		(1.832)	(4.29)	
	Social Shares			0.417***		0.0144	0.036	2.289
				(0.314)		(0.206)	(0.155)	

Main Variables	Estimate Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	VIF
	Number of Likes			0.074***		0.053**	0.035**	1.937
				(0.037)		(0.027)	(0.017)	
	Number of Comments			0.463***		0.326**	0.318**	1.984
				(0.231)		(0.164)	(0.137)	
	ID * NSF						19.597***	
							(4.263)	
	ND * NOL						8.762***	
							(1.969)	
Summary of the Model	F	50.238***	104.229***	90.035***	51.321***	50.779***	72.236***	
	R^2	0.369	0.401	0.316	0.484	0.545	0.655	
	ΔR^2	0.362	0.398	0.313	0.474	0.534	0.646	

Standard error in parenthesis

****p<0.01, **p<0.05, *p<0.1*

Combined effect of main variables is also examined to explore the most influential variables in overfunding. Model 4 is explaining combined effect of Model 1 and Model 2 with F value 53.856 ($p<0.01$) and adjusted R^2 47.4 percent. Model 5 shows combined impact of all three sets of variables on overfunding with F value 52.722 ($p<0.01$) and adjusted R^2 53.4 percent. On the bases of mean values of variables, two interaction terms (financial forecast and number of social forum, number of directors and number of likes) are explored. The purpose of testing interaction term is to check that what is impact of social network activities when an investor knows about a campaign through social media and then evaluate the campaign by observing quality signals in the campaign. Model 6 shows impact of interaction term of quality signals and social network activities on overfunding with F value 72.236 ($p<0.01$) and adjusted R^2 64.6 percent. Beta coefficients of interaction terms are positive and significant ($p<0.01$) in overfunding. VIF values of all explanatory variables are given in Table 4.6 to check multicollinearity in explanatory variables. For further testing for multicollinearity in social network activities variables, these variables are added one by one in regression model and found that there was no change in coefficient sign and significance that proved no severe multicollinearity.

Table 4.7 shows industrial wise campaigns distribution, average overfunding, percentage of raised funds, percentage of number of investors and average largest investment. Engineering equipment industry is on the top for highest overfunding with 181.69 average overfunding. Thus, investors prefer engineering sector while taking investment decisions that results in high overfunding against target amount. Table 4.8 shows city wise campaigns distribution, average overfunding, percentage of campaigns, percentage of raised funds, percentage of number investors and average largest investment. More than 50 percent campaigns are launched in London with 56.05 percent of total funds are raised in London. 53.77 percent of total investors have invested in London-based campaigns. London is a major business city of UK that is why major portion of campaigns are launched in London. Investors also consider geographical location while taking investment decision because projects in business hub are more likely to perform better in future. That is why more then 50 percent of investors have invested in campaigns located at London.

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Table 4.7: Industry Wise Distribution of Successful Campaigns

Industry Type	**Campaigns**	**% Raised**	**% Campaigns**	**Raised Funds (%)**	**No. of Investors (%)**	**Largest Investment (Average)**
Food and Beverages	227	151.33	28.99	22.50	23.71	88988.940
Consumer Products	130	152.18	16.60	13.93	12.09	112220.92
Technology	122	154.40	15.58	14.99	13.28	147570.85
Financial Management	62	171.90	7.920	20.21	26.72	287188.26
Engineering Sector	51	181.69	6.510	8.500	9.070	191669.65
Sport and Leisure	45	159.51	5.750	6.120	4.280	153142.67
Entertainment	38	130.78	4.850	3.490	2.160	195582.58
Health	33	169.36	4.210	3.220	2.960	107812.06
Internet Business	26	132.84	3.320	2.320	2.460	91313.08
Construction	25	142.04	3.190	3.210	2.110	127217.60
Education	24	130.29	3.070	1.510	1.170	85994.170

TABLE 4.8: Geographical Distribution of Successful Campaigns

Location City	**Campaigns**	**Average Raised (%)**	**% campaigns**	**Raised Funds (%)**	**No. of Investors (%)**	**Largest Investment (Average)**
London	407	160.75	51.98	56.1	53.8	154313.34
Hertfordshire	38	158.47	4.940	4.82	4.62	212339.47
Cornwall	34	154.71	4.420	6.64	4.66	294375.29
Essex	31	128.65	4.030	1.66	1.98	64510.970
Yorkshire	26	132.58	3.380	1.13	1.46	35865.000
Bristol	24	141.92	3.120	1.13	1.61	53229.580
Manchester	24	163.25	3.120	1.26	2.31	63950.000
Edinburgh	22	154.27	2.860	2.36	3.21	114195.45
Hampshire	18	132.06	2.340	1.09	1.50	63616.670
Somerset	17	165.35	2.210	2.10	2.26	126327.06
Surrey	17	154.41	2.210	1.51	1.63	132979.41
Berkshire	14	121.79	1.820	1.14	1.03	172689.29
East Sussex	14	144.57	1.820	0.64	0.76	56246.430
Cambridge Shire	13	173.92	1.690	1.44	1.96	101475.23
Leeds	13	144.23	1.690	1.77	2.05	136313.08
Oxford Shire	13	149.46	1.690	0.86	0.96	69254.620
Kent	11	146.73	1.430	0.95	0.69	76711.820
Lancashire	11	133.36	1.430	0.34	0.44	32550.000
Tyne and Wear	10	199.90	1.300	1.05	1.54	137306.00
Durham	8	137.48	1.040	11.4	10.4	127723.25
Birmingham	6	129.50	0.780	0.29	0.31	59505.000
Belfast	6	124.17	0.780	0.38	0.47	121968.33
Cardiff	6	116.33	0.780	0.34	0.30	90820.00

4.3.4 Discussion: Impact of Factors of Crowdfunding Success on Overfunding

This study investigates the factors impacting overfunding in equity crowdfunding. The results show (Table 4.6) that quality signals (campaign characteristics and directors' information) and electronic word of mouth (social network activities) have significant positive relationship with overfunding. Variance of the inflation factor (VIF) is used to indicate multicollinearity among the independent variables. If VIF>10, it indicates severe multicollinearity between the independent variables (Cohen et al., 2013; Kleinbaum et al., 1988). VIF values of all explanatory variables are far below 10 thus; confirm no severity of multicollinearity in explanatory variables. Results show that with the increase in equity offered, there is increase in overfunding of the campaign. Textual information increases overfunding by reducing information asymmetry thus work as quality signal and influence investors' decision and leads the campaign towards overfunding. Length of idea description is positively and significantly impacting overfunding. Well explained idea makes it easy to take investing decision and thus results in overfunding.

Number of documents has positive and significant impact on overfunding. Number of documents reduces information asymmetry by timely disclosure of information for investors. Importance of documents has positive and significant impact on overfunding because when founders report forecasted financial statements, it enables investors to analyze the future earning capacity of the project. Thus investors can make investing decision on the basis of financial forecast that results in overfunding. London as location of campaigns has positive and significant impact on overfunding. Thus, campaign characteristics reduce information asymmetry that may result in overfunding. These findings finds support from previous researches in the content of textual information and length of the project description by Koch and Siering (2015); Chen et al. (2009), provision of documents by Mollick (2014), provision of financial projections in equity crowdfunding by Anindyaswari and Wijaya (2020); Lukkarinen et al. (2016), geographical location by Carbonara (2021); Mollick (2014), and quality signals by Martínez-Gómez et al. (2020); Bi et al. (2017). The findings

of this study support the hypothesis 2(a) that campaign characteristics positively influence overfunding in equity crowdfunding.

Number of investors, reward, and understandability are insignificant in overfunding. These findings find support from previous research by Martínez-Gómez et al. (2020); Moedl (2019); Vismara (2019); Mollick and Nanda (2016); Cholakova and Clarysse (2015). It is examined that although sustainability attracts higher number of investors but it does not increase chances of a campaign success in equity crowdfunding (Vismara, 2019). It is examined that crowd investors are willing to fund a project that professional investors may not (Mollick and Nanda, 2016). Lack of professional investors may shrink overfunding (Martínez-Gómez et al., 2020), that may be why number of investors is insignificant in overfunding. Provision of reward does not influence campaign success in equity crowdfunding (Cholakova and Clarysse, 2015). Understandability (B2C) is associated with campaign success (Lukkarinen et al., 2016) but not significant in overfunding. Investors (crowd and professional) in crowdfunding have different investment preferences. Crowd investors follow community logic while professional investors follow market logic (Vismara, 2019). There is negative interaction between B2C ventures and pre-funding from angel investors (Moedl, 2019). As understandability attracts small crowd investors, it may be a negative signal to professional, experienced and angel investors and, thereby, may shrink overfunding of a campaign (Martínez-Gómez et al., 2020). That may be why reward and understandability are insignificant in overfunding of a campaign in equity crowdfunding.

Model 2 shows significant positive relationship between directors' information and overfunding. Number of directors has significant and positive impact on over-funding. Large size team and diversity in expertise work as quality signal that the team of the project has the capacity to meet the future business challenges. Founders when launch campaign give detail information of directors' role, qualification, special expertise, professional experiences and professional achievements. But there are number of campaign where detail information of team is missing. Detail information of directors gives investors to know about the expertise and capacity of managing team to run the business and results in overfunding. Number of foreign

directors significantly and positively influences overfunding because diverse nationality of directors works as quality signal to investors that the team has capacity and ability to face the operational challenges. Thus findings shows increase in overfunding with the increase in number of foreign directors. Number of pictures of the team influences overfunding significantly and positively. As detail information of directors and managing team enables investors to valuate worth of managing team similarly pictures of the team management enhances the trust of investors that results in overfunding. Directors' crowdfunding experience also influences overfunding positively and significantly because experience of team is most important criteria in investment selection. Presence of directors in management team having crowdfunding experience attracts more investors and results in overfunding. These findings of Model 2 are consistent with the findings of previous research in the field of venture capital and crowdfunding in the content of human capital by Unger et al. (2011), team size by Martínez-Gómez et al. (2020); Anindyaswari and Wijaya (2020); Lukkarinen et al. (2016); Vismara (2016), personal information by Bernardino and Santos (2016), pictures of team members by Koch and Siering (2015), and experience and managerial skills by Anindyaswari and Wijaya (2020); Lichtig (2015). Thus, findings of this study support the hypothesis 2(b) that directors' information positively influences overfunding in equity crowdfunding.

Social network activities are estimated with four variables to examine the impact of electronic word of mouth on overfunding in Model 3. Findings of third impact factor show significant and positive relationship between number of social forums and overfunding. Use of maximum number of popular social forums means addressing maximum number of potential investors thus results in overfunding. Number of shares on Facebook influences overfunding significantly and positively. When founders post their campaigns on Facebook pages, followers and friends share the posts on their own social media pages. Thus more the number of times posts are shared, more number of potential investors can know about the campaign and result in overfunding. Number of likes to the post on social forum has significant and positive impact of overfunding. Likes make the funders to consider the project of having good electronic word of mouth and influence investors' investing decision and result in overfunding. Number of comments on post influences overfunding

significantly and positively. Comments also make the project having good electronic word of mouth thus attracting more investors result in overfunding. The results of previous researches in the context of online behavior in crowdfunding, in the content of social networks and websites by Belleflamme et al. (2013); Mollick (2014), information through different media by Zheng et al. (2014), and online reviews and likes by Li et al. (2022); Bi et al. (2017) support these findings. So, empirical results support the hypothesis 2(c) as well that social network activities positively influence overfunding in equity crowdfunding.

Combine impact of sets of variables is examined in Model 4 and Model 5 to find out more influencing variables. Findings in Model 4 show that combined impact explains more variance in overfunding. Campaign characteristics explain 36.2 percent variance in overfunding but after including directors' information variables, the explained variance is 47.4 percent with an increase of 11.3 percent. This means the influence of campaign characteristics on overfunding is more than directors' information. When social network activities, as in

Model 5, are examined with campaign characteristics and directors' information, explained variance increases to 53.4 percent. So there is positive and significant impact of quality signals and electronic word of mouth on overfunding. But increase in variance is only 6 percent that means electronic word of mouth is less influencing factor in overfunding than quality signals. These findings give understanding that investors pay more attention to quality signals while selecting project and making investing decisions.

Model 6 shows positive and significant moderating role of electronic word of mouth between quality signals and overfunding. It means electronic word of mouth has noticeable significant impact on overfunding. So a campaign is more overfunded when investors first come to know about campaign through peripheral route and then evaluate campaign through central route. Previous studies in the context of reward-based crowdfunding show that quality signals and electronic word of mouth equally impact the success of a campaign (Bi et al., 2017).

Previous studies in the context of reward-based crowdfunding, show that quality signals and electronic word of mouth are equally significant in the success of a campaign (Bi et al., 2017). The results of this study in the context of equity

crowdfunding contradict with previous studies in the context of reward-based crowdfunding. Findings conclude that quality signals are more significant than electronic word of mouth in influencing investors' decision to invest in equity crowdfunding. The reason may be that equity crowdfunding is a long-term investment while reward-based crowdfunding is just buying a product in advance. Decision making process is much complex in equity crowdfunding than in reward-based crowdfunding (Bi et al., 2017). That may be why in equity crowdfunding, investors weigh quality signals more than electronic word of mouth when making investment decision. These results find support from previous studies by Martínez-Gómez et al. (2020); Ahlers et al. (2015); Levie and Gimmon (2008); Zacharakis and Meyer (2000). Ahlers et al. (2015) examine significant impact of effective signals (equity, financial forecast and human capital) but very little impact of social capital on campaign success in equity crowdfunding. Martínez-Gómez et al. (2020) conclude comparatively more significant impact of quality signals than social capital on overfunding in equity crowdfunding. Education, experience and management skills of team are most important criteria for investors in taking investment decisions (Levie and Gimmon, 2008; Zacharakis and Meyer, 2000). Thus, quality signals (campaign characteristics and directors' information) are more significant than electronic word of mouth (social network activities) in overfunding success of campaigns in equity crowdfunding.

Industry wise distribution of successful crowdfunding campaigns (Table 4.7) shows that highest numbers of successful campaigns are in food and beverage sector with highest percentage of fund raised on Crowdcube. Financial management sector has attracted highest number of investors and highest average largest investments.

Geographical distribution of successful campaign (Table 4.8) shows that more than 50 percent of successful campaigns are based in London by raising more than 50 percent of total funds raised on Crowdcube with highest number of investors. It is because London is major business city of UK and investors prefer to invest in a business which is located at business hub. That may be why major portion of investment is in London. But considerable geographical dispersion shows that crowdfunding can mitigate the distance effect which is observed in traditional fundraising.

4.4 Impact of Campaign Success Factors on Firm Performance

4.4.1 Description Analysis

Descriptive analysis describes basic behavior and main features of the data of the study, and also provides summary of descriptive statistics about sample and applied measurements.

TABLE 4.9: Descriptive Statistics: Impact of Campaign Success Factors on Firm Performance

Variables	Observations	Mean	Maximum	Minimum	Std. Dev.
Survival	854	0.777	1	0	0.416
Asset Growth	854	0.868398	16.17	-0.79	1.476771
Equity	854	14.408	54.27	1.02	9.869
Overfunding	854	165.120	1104	100	99.516
Documents	854	42.447	303	0	28.281
Investors	854	574.133	35899	7	1602.39
Largest Investment	854	168840.9	5000000	500	389090.1
Business Followers	854	804.414	27859	2	1700.372
Directors	854	4.373	24	1	3.414
Foreign Directors	854	0.817	10	0	1.452
Directors' Profile	854	0.598	1	0	0.490
CF Experience	854	0.313	1	0	0.464
Social Forums	854	2.921	6	0	1.11671
Social Followers	854	22665.73	4046850	0	150778.8
Social Shares	854	21.840	505	0	38.218
Socially Activeness	854	0.649	1	0	0.477

Summary of descriptive statistics of all data set for impact of campaign success factors on firm performance is presented in Table 4.9. Mean value of survival shows that majority of firms are active in post campaign business trading confirming low ratio of post campaign firm failure in equity crowdfunding. Very high maximum

value of largest investment shows the presence of venture capital in equity crowdfunding that may always be helpful in post campaign firm success. Considerable mean of overfunding shows the importance of excessive funds in post campaign firm performance. High mean of social followers indicates the significant role of social media in business trading thus, results in post campaign firm performance.

4.4.2 Correlation Analysis

Literature reveals that campaign success factors have an impact on firm performance. It is because campaign success factors not only work as quality signals but also influence post campaign business trading. Correlation analysis can predict the significant factors and explains the direction of relationship between dependent and independent variables and also provides a check on independent variables. Independent variables must not be highly correlated when regress to explore their impact on dependent variables Tables 4.10 shows that all independent variables like campaign characteristics, directors' characteristics and social network activities are positively correlated with firm survival and asset growth. Thus, it is concluded that success factors have positive significant relationship with firm performance. Correlations analysis therefore supports all hypotheses regarding firm performance. Moreover, independent variables are not highly correlated with each other and can be regress to investigate their impact on dependent variable.

4.4.3 Results: Impact of Campaign Success Factors on Firm Performance

4.4.3.1 Post Campaign Firm Survival

This study estimates the role of campaign characteristics, directors' information and social network activities on firm survival. Logit regression analysis is used to explore the relationship between three sets of variables and survival. Table 4.11 shows the results of logit regression analysis between dependent and independent variables (beta coefficient with level of significance and robust standard error in parenthesis along with marginal effects of all independent variables).

Table 4.10: Correlation of Variables: Impact of Campaign Success Factors on Firm Performance

Variables of the Models	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Survival	1															
Asset Growth	0.17***	1														
Equity	0.11***	0.02*	1													
Overfunding	0.23***	0.51*	0.13*	1												
Documents	0.27***	0.34*	0.04	0.21*	1											
Investors	0.13***	0.49*	0.08**	0.39*	0.27	1										
Largest Invest	0.15**	0.61**	0.11*	0.32*	0.28*	0.36*	1									
Business Foll.	0.18***	0.62**	0.08**	0.68	0.26**	0.67*	0.47*	1								
Directors	0.28***	0.42*	0.04	0.19*	0.76*	0.26**	0.26*	0.24*	1							
Foreign Dir	0.22**	0.57*	0.01	0.22*	0.38*	0.24*	0.25*	0.24*	0.24	1						
Directors' Profile	0.41***	0.15*	0.15*	0.31*	0.28*	0.15	0.19	0.21	0.51*	0.15*	1					
CF Experience	0.34***	0.34	0.11*	0.43**	0.37	0.28*	0.32*	0.39	0.28	0.23*	0.37*	1				
Social Forums	0.53**	0.18**	0.07*	0.18	0.24**	0.19*	0.21*	0.22*	0.39*	0.12	0.28**	0.25	1			
Social Followers	0.07**	0.63*	-0.05	0.03	0.17	0.15*	0.03	0.14**	0.25**	0.36*	0.05	0.11**	0.16	1		
Social Shares	0.25***	0.26**	0.05	0.31**	0.16*	0.22*	0.19	0.31*	0.16*	0.18*	0.23*	0.34*	0.26**	0.03	1	
Socially Active	0.69***	0.29*	0.11**	0.21*	0.25**	0.14**	0.17*	0.18*	0.18*	0.12**	0.34*	0.32**	0.56**	0.10*	0.31*	1

Model 1 shows the relationship between campaign characteristics and firm survival. Pseudo R^2 (McFadden R^2) for campaign characteristics is 0.302 with Wald Chi Square value 116.65 significant ($p<0.01$). Hensher and Stopher (2021) has recommended that value of pseudo R^2 ranging from 0.2 to 0.4 indicates good model fit and beyond 0.4 indicates excellent model fit. Beta coefficients for equity, overfunding, documents, investors, largest investment and business followers are positive and significant in predicting survival. Marginal effects are 3.4 percent for equity, 1.3 percent for overfunding, 3.6 percent for documents, 0.3 percent for investors, 0.06 percent for largest investment and 0.4 percent for business followers. Pseudo R^2 (McFadden R^2) for directors' characteristics variables in Model 2 is 0.301 which shows a good model fit. Marginal effects are 22.7 percent for directors, 68.2 percent for foreign directors, 144.1 percent for directors' profile, and 263.6 percent for CF experience. Beta coefficients of directors' characteristics are positively significant ($p<0.01$) in predicting survival. Pseudo R^2 (McFadden R^2) for social network activities in Model 3 is 0.488 that indicate excellent model fit. Marginal effects are 46.8 percent for social forums, 0.008 percent for social followers, 4.9 percent for social followers and 42.8 percent for social activeness. The beta coefficients of social network activities are positively significant in predicting survival ($p<0.01$). Combined effect of main variables is also examined to explore the most influential variables in predicting survival. Model 4 is investigating combined effect of Model 1 and Model 2 with Pseudo R^2 (McFadden R^2) value 0.379.

Model 5 shows combined impact of all three sets of variables in predicting survival with Pseudo R^2 (McFadden R^2) value 0.604 which indicate excellent model fit. Table 4.12 shows industrial wise firms' distribution, active rate in industry, average equity in industry, average overfunding in industry, average documents reporting in industry, percentage of investors in industry, average largest investment in industry, average business followers in industry and percentage of total funds raised on Crowdcube by each industry. Results show that overall on Crowdcube from 2011 to 2020, almost 77.66 percent firms are active and 22.34 percent firms are non-active. Crowdcube focuses on four industries for raising funds by entrepreneurs. Active rate is 79.55 for consumer product, 78.07 for consumer internet, 90.16 percent for fintech and 70.83 percent for foods and beverages industry.

Table 4.11: Impact of Campaign Success Factors on Firm Survival

Main Variables	**Estimate Variables**	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Marginal Eff.**	**VIF**
Campaign Characteristics	Equity	0.035***			0.019	0.008	0.034	1
		(0.013)			(0.012)	(0.009)		
	Overfunding	0.012***			0.007**	0.010***	0.013	1.4
		(0.003)			(0.003)	(0.004)		
	Documents	0.036***			0.017**	0.006	0.036	2.4
		(0.007)			(0.009)	(0.011)		
	Investors	0.003***			0.002*	0.001	0.003	1.9
		(0.001)			(0.001)	(0.001)		
	Largest Investment	2.7E-06*			2.04E-06*	3.3E-06**	2.60E-06	2.1
		(1.59E-06)			(1.20E-06)	(1.70E-06)		
	Business Followers	0.003***			0.002***	0.005	0.004	1.4
		(0.001)			(0.001)	(0.001)		
Directors' Characteristics	Directors		0.243***		0.124**	0.113	0.227	2
			(0.047)		(0.067)	(0.091)		
	Foreign Directors		0.733***		0.652***	0.672***	0.682	1.8
			(0.167)		(0.172)	(0.215)		

Main Variables	Estimate Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Marginal Eff.	VIF
	Directors' Profile		1.547***		1.205***	0.874**	1.441	1.2
			(0.208)		(0.232)	(0.296)		
	CF Experience		2.831***		1.993***	1.486	2.636	1.5
			(0.606)		(0.707)	(0.953)		
Social Network Activities	Social Forums			0.482***		0.475***	0.468	1.3
				(0.145)		(0.179)		
	Social Followers			9.1E-05***		9.9E-05***	8.80E-05	1.5
				(2.30E-05)		(3.60E-05)		
	Social Shares			0.051***		0.048***	0.049	1.2
				(0.01)		(0.012)		
	Socially Activeness			1.471***		1.286***	1.428	1.3
				(0.196)		(0.196)		
Summary of the Model	Pseudo - R^2	0.302***	0.301***	0.488***	0.379***	0.604***		
	Wald Chi Square	116.65***	115.98***	202.86***	129.09***	161.90***		

Standard error in parenthesis

****p<0.01, **p<0.05, *p<0.1*

.

TABLE 4.12: Industry Wise Distribution of Post Campaigns Firm Survival

Industry Type	**No. of Firms**	**Active (%)**	**Average Equity (%)**	**Average Overfunding (%)**	**Documents (Average)**	**No. of Investors (%)**	**Largest Investment (Average)**	**Business Followers (Average)**	**Raised Funds (%)**
Consumer Products	318	79.55	16.15	171.63	46	31.85	176303.55	763	35.10
Consumer Internet	260	78.07	13.67	154.97	43	21.76	160601.52	640	25.14
Fintech Sector	61	90.16	17.25	234.13	65	26.37	516947.96	2448	20.74
Food and Beverages	216	70.83	14.75	156.72	41	20.00	99853.96	624	19.01

4.4.3.2 Post Campaign Asset Growth

This study estimates the role of campaign characteristics, directors' information and social network activities on firms' post campaign asset growth. Regression analysis is used to explore the relationship between three sets of variables and asset growth. Table 4.13 shows the results of regression analysis between dependent and independent variables (beta coefficient with level of significance and robust standard error in parenthesis).

Model 1 shows the relationship between campaign characteristics and post campaign asset growth. Campaign characteristics are explaining 49.6 percent variance in asset growth. Beta coefficients are 0.003 for overfunding, 0.007 for documents, 8.4E-05 for investors, 9.5E-07 for largest investment. These beta coefficients are positive and significant in post campaign asset growth ($p<0.01$). Beta coefficients are 0.001 for equity and 0.001 for business followers are insignificant in asset growth. Directors' characteristics variables in Model 2 are explaining 37.6 percent variance in post campaign post campaign asset growth. Beta coefficients are 0.033 for directors, 0.449 for foreign directors and 0.694 for crowdfunding experience. These beta coefficients are positively significant in post campaign asset growth ($p<0.01$). Beta coefficient for directors' profile is 0.023 but insignificant in post campaign asset growth.

Social network activities in Model 3 are explaining 44.5 percent variance in post campaign asset growth. Beta coefficients are 1.7E-05 for social followers, 0.006 for social followers and 0.239 for social activeness. These beta coefficients are also positively significant in post campaign asset growth ($p<0.01$). Thus, social network activities have impact not only in post campaign firm survival but also in post campaign asset growth. Beta coefficient for social forums is 9.3E-07 but insignificant in post campaign asset growth. Combined effect of main variables is also examined to explore the most influential variables in asset growth. Model 4 is explaining combined effect of Model 1 and Model 2 with adjusted R^2 56.8 percent. Model 5 shows combined impact of all three sets of variables in asset growth with adjusted R^2 65.4 percent. Combined results explain more variance in post campaign asset growth.

Table 4.13: Impact of Campaign Success Factors on Asset Growth

Main Variables	**Estimate Variables**	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**VIF**
Campaign Characteristics	Equity	0.001			0.001	0.003	1.03
		(0.003)			(0.002)	(0.003)	
	Overfunding	0.003***			0.003**	0.002***	1.37
		(0.001)			(0.001)	(0.001)	
	Documents	0.007***			0.001	0.002	2.36
		(0.002)			(0.002)	(0.002)	
	Investors	8.4E-05*			7.6E-05*	2.10E-05	1.92
		(4.60E-05)			(4.40E-05)	(5.50E-05)	
	Largest Investment	9.5E-07***			7.8E-07***	6.6E-07***	2.05
		(3.30E-07)			(3.10E-07)	(2.80E-07)	
	Business Followers	0.001			0.001*	8.30E-06	1.38
		(0.001)			(9.10E-05)	(7.10E-06)	
Directors' Characteristics	Directors		0.033***		0.027*	0.022*	1.97
			(0.014)		(0.017)	(0.016)	
	Foreign Directors		0.449***		0.279***	0.231***	1.76
			(0.081)		(0.061)	(0.045)	

Main Variables	Estimate Variables	Model 1	Model 2	Model 3	Model 4	Model 5	VIF
	Directors' Profile		0.023		0.036	0.874**	1.19
			(0.102)		(0.112)	(0.296)	
	CF Experience		0.694***		0.074	0.058	1.47
			(0.131)		(0.144)	(0.104)	
Social Network Activities	Social Forums			9.30E-07		0.069**	1.25
				(0.047)		(0.036)	
	Social Followers			1.7E-05***		9.4E-06**	1.47
				(4.50E-06)		(4.50E-06)	
	Social Shares			0.006***		0.001	1.23
				(0.001)		(0.001)	
	Socially Activeness			0.239***		0.199***	1.34
				(0.045)		(0.039)	
Summary of the Model	F	109.152***	100.230***	133.145***	87.446***	90.091***	
	R^2	0.501	0.38	0.448	0.574	0.662	
	ΔR^2	0.496	0.376	0.445	0.568	0.654	

Standard error in parenthesis

****p<0.01, **p<0.05, *p<0.1*

4.4.4 Discussion: Impact of Campaign Success Factors on Firm Performance

4.4.4.1 Discussion: Post Campaign Firm Survival

The results show (Table 4.11) that success factors like quality signals (campaign characteristics and directors' characteristics) and electronic word of mouth (social network activities) have significant positive relationship with survival. Variance of the inflation factor (VIF) is used to check multicollinearity among the independent variables. If VIF>10, it indicates severe multicollinearity between the independent variables (Cohen et al., 2013; Kleinbaum et al., 1988). VIF values confirm no severity of multicollinearity among the independent variables because all values are far below 10. Marginal effects of independent variables in Model 1 indicate that as there is increase in the value of predictor, the probability of firm survival increases. Thus, with the increase in equity, there is increase in probability of a firm to be active in business trading. It is because high equity level increase the stake of entrepreneurs in firm that increase their commitment with business thus results in firm survival. Increase in overfunding increases the probability of post campaign firm success. It is because overfunding enables a firm to raise not only required fund but also to deal with liquidity requirement in for smooth business trading. Provision of documents increases the probability of firm survival because it not only enable firm to fulfill regulatory requirement but also provide management a tool for effective control. This leads firm to post campaign success and better firm survival. Increase in number of Investors increases probability of post campaign success.

High number of investors provides required capital and a pool of expertise for business decision making through their suggestions and feedback to firm. Largest investment is a sign of angel investor or more professional investor. Firms having professional or angel investor not only able to handle capital requirement but also has professional to run business thus results in survival by active business trading. Business followers increase the chances of post campaign success in equity crowdfunding because it provides pool of potential investors and also work as

marketing tool for business thus leads to active business trading. Thus, results of model 1 support hypothesis 5a that quality signals increases the probability of post campaign firm success in equity crowdfunding. These findings further corroborate the outcomes of previous researches in the content of post campaign firm survival, firm success and firm performance in equity crowdfunding by Martínez-Gómez et al. (2020); Ralcheva and Roosenboom (2020); Hornuf et al. (2018); Bi et al. (2017).

Marginal effects of independent variables in Model 2 indicate that with increase in the value of directors' characteristics, the probability of firm survival increases. Model 2 shows significant positive relationship between directors' characteristics and firm survival. Directors have significant and positive impact on firm survival. Large size team and diversity in expertise have ability to meet the future business challenges thus increase in number of directors increase the probability of firm success. Directors' profile gives detail information of directors' role, qualification, special expertise, professional experiences and professional achievements. Directors' skills and knowledge enhance the capacity of managing team to run the business and results in firm survival and increase the probability of firm success. Foreign directors significantly and positively influence firm survival because diverse nationality of directors increases the capacity and ability of managing team to face the operational challenges. CF experience of directors influences survival positively and significantly because experience plays most important role in firm success. These findings of Model 2 are in favor of hypothesis 6a that directors' characteristics increase the probability of post campaign firm success in equity crowdfunding. It further enhances literature in equity crowdfunding by confirming the results of previous researches in the area of venture capital and crowdfunding by Hornuf et al. (2018); Koch and Siering (2015); Lichtig (2015); Vismara (2016); Boeuf et al. (2014); Unger et al. (2011); Vukovic et al. (2010); Levie and Gimmon (2008); Zacharakis and Meyer (2000); Wiersema (1993).

Social network activities are estimated with four variables to examine the impact of electronic word of mouth on firm survival in Model 3. Findings of third impact factor show significant and positive relationship between social forums and survival. Marginal effects of social network activities variables in Model 3 show that when there is increase in the value of independent variable, the probability of firm survival

increases. Use of maximum number of popular social forums means addressing maximum number of potential customers thus works as marketing tool for a firm and helps in building good customer relationship. It helps business firms to enhance sales growth results in survival. Social followers on social media accounts influence survival significantly and positively. Followers on social media not only build a pool of loyal customers but also attract more customers because high number of followers works as trust tool for potential customers. Social shares influence survival significantly and positively because more the number of times posts are shared, more number of potential customers can know about the campaign and firm business thus work as marketing tool that result in high sales growth. Social activeness has significant and positive impact on survival. Social activities help firm to update potential customers about company products and services thus result in survival. Social network activities make the potential customers to consider the firm of having good electronic word of mouth and build trustworthy customer relationship that result in survival. Results of Model 3 prove the hypothesis 7a that social network activities increase the probability of post campaign firm success in equity crowdfunding. Findings also find support from studies in the context of equity crowdfunding, venture capital and online behavior in crowdfunding by Bi et al. (2017); Antonenko et al. (2014); Mollick (2014); Zheng et al. (2014); Belleflamme et al. (2013).

Combine impact of sets of variables is examined in Model 4 and Model 5 to find out more influencing variables. Pseudo R^2 (McFadden R^2) value of Model 4 shows that combined impact model is more good fit than Model 1 (campaign characteristics) in survival. Pseudo R^2 for campaign characteristics is 0.302 but after including directors' characteristics variables; the value of Pseudo R^2 is 0.379 with an increase of 0.077. This means the influence of campaign characteristics on survival is more than directors' characteristics. When social network activities, as in Model 5, are examined with campaign and directors' characteristics, Pseudo R^2 value increases to 0.604 which indicates that this model is excellent fit. Hensher and Stopher (2021) has recommended that value of pseudo R^2 ranging from 0.2 to 0.4 indicates good model fit and beyond 0.4 indicates excellent model fit. So there is positive and significant impact of quality signals and electronic word of mouth on survival.

Results suggest that electronic word of mouth is also significant influencing factor in survival along with quality signals. These findings give understanding that both success factors (quality signals and electronic word of mouth) almost equally increase the probability of post campaign firm success. Previous studies in the context of reward-based crowdfunding also show that quality signals and electronic word of mouth equally impact the success of a campaign (Bi et al., 2017).

This study also examines industrial survival by industry wise distribution of firms and success factors. Results (Table 4.12) show that fintech industry has highest active rate. It means firms in fintech industry are performing better than firms in any other industry and only 10 percent firms dissolves. It is because firms in finrech industry receive highest equity, highest overfunding, highest single largest investment and highest business followers. Firms in this industry also report highest number of documents. These facts further confirm the positive and significant role of success factors in firm survival and post campaign success. Food and beverages industry has lowest active rate that means highest rate of post campaign failure that is 29.17 percent. Results show that food and beverage receives lowest equity, lowest overfunding, lowest number of investors, lowest average largest investment and also lowest number of business followers. These facts support our study that success factors increase the probability of post campaign success.

4.4.4.2 Discussion: Post Campaign Asset Growth

The results show (Table 4.13) that success factors like quality signals (campaign characteristics and directors' characteristics) and electronic word of mouth (social network activities) have significant positive relationship with asset growth. Results of Model 1 show that with the increase in overfunding there is increase in post campaign asset growth. It is because overfunding enables a firm to raise not only required fund but also to deal with liquidity requirement for smooth business trading. That may be why overfunding positively influences asset growth. Provision of documents increases the asset growth because it not only enable firm to fulfill regulatory requirement but also provide management a tool for effective control. This leads firm to post campaign success and better firm performance.

Increase in number of Investors increases post campaign asset growth. High number of investors provides required capital and a pool of expertise for business decision making through their suggestions and feedback to firm. Largest investment is a sign of angel or more professional investor. Firms having professional or angel investor are able to handle capital requirement and also have professional to run business thus, results in asset growth by active business trading. Equity and Business followers are significant in firm survival but insignificant in asset growth. These findings support the hypothesis 5b that quality signals positively influence post campaign asset growth in equity crowdfunding. Results of previous researches in the context of equity crowdfunding and reward-based crowdfunding by Eldridge et al. (2021); Martínez-Gómez et al. (2020); Ralcheva and Roosenboom (2020); Hornuf et al. (2018); Bi et al. (2017) support these empirical findings in the context of equity crowdfunding.

Model 2 shows significant positive relationship between directors' characteristics and post campaign asset growth. Directors have significant and positive impact on asset growth. Large size team and diversity in expertise have ability to meet the future business challenges thus there is positive association between number of directors and post campaign asset growth. Foreign directors significantly and positively influence asset growth because diverse nationality of directors increases the capacity and ability of managing team to face the operational challenges. CF experience of directors influences asset growth positively and significantly because experience plays most important role in firm performance. Directors' profile is significant in post campaign firm survival but insignificant in asset growth. The results support our hypothesis that directors' information positively influence post campaign asset growth in equity crowdfunding. Results of Model 2 support the hypothesis 6b that directors' characteristics positively influence post campaign asset growth in equity crowdfunding. Results from previous studies by Hornuf et al. (2018); Koch and Siering (2015); Vismara (2016); Lichtig (2015); Boeuf et al. (2014); Décarre and Wetterhag (2014); Unger et al. (2011) support these findings. Directors' profile is not only important in predicting post campaign asset growth in equity crowdfunding but these results also find supports from the studies in the field of traditional way of equity investments. Thus, these results are in line with

previous research in venture capital and crowdfunding context by Vukovic et al. (2010); Levie and Gimmon (2008); Zacharakis and Meyer (2000); Wiersema (1993).

Social network activities are estimated with four variables to examine the impact of electronic word of mouth on asset growth in Model 3. Findings of third impact factor show significant and positive relationship between social followers and asset growth. Followers on social media not only build a pool of loyal customers but also attract more customers because high number of followers works as trust tool for potential customers. Thus, works as marketing tool for a firm and helps in building good customer relationship. It helps business firms to enhance sales growth results in asset growth. Social shares influence asset growth significantly and positively because more the number of times posts are shared, more number of potential customers can know about the campaign and firm business thus, work as marketing tool that result in high sales growth that may lead to asset growth. Social activeness has significant and positive impact on asset growth. Social activities help firm to update potential customers about company products and services thus result in high sale that may also lead to asset growth. Social network activities make the potential customers to consider the firm of having good electronic word of mouth and build trustworthy customer relationship that may result in better firm performance. Thus, results support hypothesis 7b as well that social network activities positively influence post campaign asset growth. Pre and post campaign impact of social network activities also has also been explored in previous researches in the context of online behavior in crowdfunding by Li et al. (2022); Bi et al. (2017); Antonenko et al. (2014); Décarre and Wetterhag (2014); Mollick (2014); Zheng et al. (2014); Belleflamme et al. (2013).

Combine impact of sets of variables is examined in Model 4 and Model 5 to find out more influencing variables. Findings in Model 4 show that combined impact explains more variance in asset growth. Campaign characteristics explain 49.6 percent variance in asset growth but after including directors' characteristics variables; the explained variance is 56.8 percent with an increase of 7.2 percent. This means the influence of campaign characteristics on asset growth is more than directors' characteristics. When social network activities, as in Model 5, are examined with campaign and directors' characteristics, explained variance increases

to 65.4 percent with an increase of 8.6 percent. So there is positive and significant impact of quality signals and electronic word of mouth on asset growth. Reasonable Increase in variance means electronic word of mouth is also significant influencing factor in survival along with quality signals. These findings give understanding that quality signals predict more variance in asset growth than electronic word of mouth. It means that quality signals that represent firm potential and value are primary factors in firm performance but electronic word of mouth is a supporting factor in post campaign firm performance.

4.5 Mediating Role of Crowdfunding in Success Factors and Firm Performance

4.5.1 Description Analysis

Descriptive analysis is used to describe main features of the data of the study, and also provides summary of descriptive statistics about sample and applied measurements. Descriptive statistics of dependent and independent variables in explaining mediating role of crowdfunding between campaign characteristics and firm performance are presented in Table 4.14. Mean value of performance (measured by firm survival) shows that majority of firms are active in post campaign business trading confirming low ratio of post campaign firm failure in equity crowdfunding. Very high maximum value of largest investment shows the presence of venture capital in equity crowdfunding that may always be helpful in post campaign firm success. Considerable high mean of crowdfunding (total funds raised) shows the importance of excessive funds in post campaign firm performance. High mean of social followers indicates the significant role of social media in business trading thus, results in post campaign firm performance.

4.5.2 Correlation Analysis

Existing studies indicates that campaign characteristics have an impact on post campaign firm performance but it is the crowdfunding that mediate the impact of

TABLE 4.14: Descriptive Statistics: Mediating Role of Crowdfunding Between Success Factors and Firm Performance

Variables	**Observations**	**Mean**	**Maximum**	**Minimum**	**Standard Dev.**
Performance	825	0.777518	1	0	0.416157
Crowdfunding	825	655445.9	20000000	12000	1230061
Equity	825	14.40822	196	1.05	9.8699
Investors	825	574.1335	35899	7	1602.39
Largest Investment	825	168840.9	5000000	500	389090.1
Business Followers	825	804.4145	27859	2	1700.372
Social Followers	825	22665.73	4046850	0	150778.8

campaign characteristics in firm performance. It is because campaign characteristics not only work as quality signals but also influence post campaign business trading. Correlation analysis can predict the significant factors and explains the direction of relationship between dependent and independent variables and also provides a check on independent variables. Independent variables must not be highly correlated when regress to explore their impact on dependent variables Table 4.15 shows that independent variables are positively correlated with mediator and dependent variable in explaining mediating role of crowdfunding between campaign characteristics and performance. Thus, it is concluded that campaign characteristics and mediator have positive significant relationship with firm performance. Correlations analysis therefore supports all hypotheses regarding mediating role of crowdfunding in firm performance. Correlation analysis also indicates that independent variables are not highly correlated with each other and can be regress to investigate their impact on dependent variable.

4.5.3 Results: Mediating Role of Crowdfunding in Success Factors and Firm Performance

This study has explored mediating role of crowdfunding in the relationship between campaign characteristics and firm performance. Logit regression analysis has been used to explore Model 1 (campaign characteristics and performance), Model 3 (mediator and performance), and Model 4 (campaign characteristics, mediator and performance). Linear regression analysis has been used to estimate Model

TABLE 4.15: Correlations of Variables: Mediating Role of Crowdfunding Between Success Factors and Firm Performance

Variables	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Performance	1						
Crowdfunding	0.190***	1					
Equity	0.109***	0.140***	1				
Investors	0.132***	0.854***	0.891***	1			
Largest Investment	0.157***	0.639***	0.109***	0.363***	1		
Business Followers	0.182***	0.721***	0.088***	0.676***	0.475***	1	
Social Followers	0.075**	0.132***	-0.056	0.152***	0.036	0.145***	1

2 (campaign characteristics and crowdfunding). Table 4.16 shows the results of logit and linear regression analysis between independent, mediator and dependent variables (beta coefficient with level of significance and robust standard error in parenthesis)

Model 1 (logit regression) shows the relationship between campaign characteristics and firm performance. Pseudo R^2 of the model is 0.371 with Wald Chi Square value of 113.383 positive and significant. Beta coefficients equity, number of investors, largest investment, business followers, and social followers are positive and significant in predicting firm performance. Campaign characteristics in Model 2 (OLS regression) are explaining 86.3 percent variance in crowdfunding. Beta coefficients are 44.352 for equity, 49.600 for number of investors, 1.091 for largest investment, 84.341 for business followers, and 0.053 for social followers. These beta coefficients are positive and significant in predicting firm performance. Pseudo R^2 of the Model 3 (logit regression) is 0.204 with positive and significant beta coefficient ($p<0.01$). Model 4 (logit regression) shows the relationship between campaign characteristics and firm performance to explore mediating impact of crowdfunding between campaign characteristics and performance. Pseudo R^2 is 0.371 with Wald Chi Square value of 113.102 positive and significant. Beta coefficients for equity, number of investors, largest investment, business followers, and social followers are significant ($p<0.01$). But beta coefficient of mediator is now insignificant in predicting performance.

Hayes Process Macro Model 4 has also been used to confirm direct and indirect

effect of campaign characteristics on performance (Table 4.17). There is direct effect (b = 0.0336, p<0.01) of campaign characteristics with performance. Indirect effect (b = -0.0022, z-statistics = 2.047) is insignificant because of b-value falls between -0.0209 to 0.0110 which include zero value as well.

4.5.4 Discussion: Mediating Role of Crowdfunding in Success Factors and Firm Performance

Campaign characteristics have been studied to investigate their impact on crowdfunding campaign success that enables entrepreneurs to raise targeted amount and start business activities. Previous studies have observed increase in fund-raising with the increase in the magnitude of campaign characteristics. High fund-raising can help entrepreneurs to run business smoothly that may result better post campaign firm performance. This means campaign characteristics may impact firm performance by raising sufficient funds for smooth business trading. Variance of the inflation factor (VIF) is used to check multicollinearity among the independent variables. If VIF>10, it indicates severe multicollinearity between the independent variables (Cohen et al., 2013; Kleinbaum et al., 1988). VIF values confirm no severity of multicollinearity among the independent variables. Due to binary outcome in this mediation model, casual mediation analysis approach is applied that allows to test mediation model with binary outcome with same assumptions of mediation (Rijnhart et al., 2023). Mediating role of crowdfunding between campaign characteristics and firm performance has been evaluated by taking Baron and Kenny (1986) assumptions for mediation.

Campaign characteristics are significant in predicting post campaign firm performance. Results suggest that with the increase in value of campaign characteristics, there is an increase in probability of post campaign firm survival. Campaign characteristics are also significant in crowdfunding that means with the increase in values of campaign characteristics, there is an increase in high fund-raising. Crowdfunding is significant in predicting firm performance that means with the increase in fund-raising in crowdfunding, there is an increase in probability of post campaign firm survival.

Table 4.16: Mediating Role of Crowdfunding Between Success Factors and Firm Performance

Main Variables	**Estimate Variables**	**Model 1**	**Model 2**	**Model 3**	**Model 4**	
		Performance	**Crowdfunding**	**Performance**	**Mediation**	**VIF**
Campaign Characteristics	Equity	0.035***	44.352***		0.035***	1.02
		(0.015)	(16.002)		(0.016)	
	Investors	0.002***	49.600***		0.003***	1.86
		(0.001)	(13.343)		(0.001)	
	Largest Investment	3.14E-06 ***	1.091***		3.31E-06***	1.3
		(1.17E-06)	(0.045)		(1.32E-06)	
	Business Followers	0.002**	84.341***		0.002***	2.08
		(0.001)	(13.235)		(0.001)	
	Social Followers	0.001***	0.053**		0.001***	1.03
		(4.98E-05)	(0.105)		(5.00E-05)	

Main Variables	Estimate Variables	Model 1 Performance	Model 2 Crowdfunding	Model 3 Performance	Model 4 Mediation	VIF
Mediator	Crowdfunding			0.016 ***	1.96E-07	1.31
				(0.011)	(6.39E-07)	
Summary of the Model	F		1066.744***			
	Pseudo - $R^2/\Delta R^2$	0.371	0.863	0.204	0.371	
	Wald Chi Square	113.383***		55.960***	113.102***	

Standard error in parenthesis

****p<0.01, **p<0.05, *p<0.1*

.

TABLE 4.17: Mediation Analysis Summary: Hayes Process Macro

Relationship	**Direct Effect**	**Indirect Effect**	**Confidence Interval**		**z-statistics**	**Conclusion**
			Lower Bound	**Upper Bound**		
Characteristics -> Crowdfunding -> Performance	0.0336 -0.01	-0.0022	-0.0209	0.011	2.047	No Mediation

When crowdfunding as mediator has been tested along with campaign characteristics, the impact of crowdfunding is insignificant while direct impact of campaign characteristics still significant. There is no significant change in pseudo R^2 (model 1 = 0.371, Model 4 = 0.371 in Table 4.16) and Wald Chi Square value (Model 1 = 113.383, Model 4 = 113.102 in Table 4.16) in direct and indirect effect of campaign characteristics on performance. Thus, with the addition of mediator, no change in R^2 and Wald Chi Square indicate that mediator is not bringing significant change in firm performance so indirect relationship with firm performance is insignificant. These results of logit regression models suggest that there is no mediation between the association of campaign characteristics and performance. These findings reject hypothesis H3 that crowdfunding mediate relationship between campaign characteristics and firm performance.

Indirect impact has also been cross checked with the help of Hayes Process Macro Model IV to confirm whether there exists any mediation or not in the association of campaign characteristics and performance. Table 4.17 presents mediation analysis summary of Hayes Process Macro Model IV where direct effect of campaign characteristics is significant but indirect effect of campaign characteristics through crowdfunding is insignificant. Hayes Process Macro Models are also solution for the problem in mediation with binary outcome (Rijnhart et al., 2023). These findings further confirm that there is no mediation between association of campaign characteristics and firm performance. Thus, these results do not support hypothesis H3 that Crowdfunding mediates the relationship between equity crowdfunded firms' performance and crowdfunding campaign characteristics. It may be because of strong direct relationship between campaign characteristics and post campaign firm performance. As compare to previous literature, these results of no mediation find support from previous studies in equity and donation-based crowdfunding by Alharbey and Van Hemmen (2021) and Liu et al. (2018). But there are some studies with significant mediation impact of campaign characteristics in fund-raising (Moysidou and Hausberg, 2020; Colombo et al., 2015). Contradicting results are due to difference in mediator and dependent variables, as previous studies investigate the mediation impact on campaign success while this study explores mediating impact of crowdfunding between campaign characteristics and performance.

4.6 Comparison of Performances Crowdfunded and Non-Crowdfunded Firms

4.6.1 Description Analysis

To analyze main features and behavior of the data of the study, descriptive analysis is used. It also provides summary of descriptive statistics about sample and applied measurements. Table 4.18 describes the summary of descriptive statistics of all variables of performances comparison between crowdfunded and non-crowdfunded firms. Mean value of performance (measured by firm survival) shows that majority of firms in sample are active in post campaign business trading. Very high maximum value of largest investment shows the presence of venture capital in firms that may always be helpful in post campaign firm success. High mean of funding source indicates that comparatively large number of firms in sample has raised funds through equity crowdfunding. High mean of social followers indicates the significant role of social media in business trading thus, results in post campaign firm performance in equity crowdfunding.

TABLE 4.18: Descriptive Statistic: Comparison of Performances of Crowdfunded and Non-Crowdfunded Firms

Variables	**Observations**	**Mean**	**Maximum**	**Minimum**	**Standard. Dev.**
Performance	625	0.777518	1	0	0.416157
Funding Source	625	0.74356	1	0	0.436924
Equity	625	14.40822	196	1.05	9.8699
Investors	625	574.1335	35899	7	1602.39
Largest Investment	625	168840.9	5000000	500	389090.1
Business Followers	625	804.4145	27859	2	1700.372
Social Followers	625	22665.73	4046850	0	150778.8

4.6.2 Correlation Analysis

Crowdfunding aims to use quality signals and social media in obtaining funds from crowd and using crowdfunding characteristics in post campaign firm performance.

Thus, funding source (equity crowdfunding or not) may affect post campaign firm performance. Correlation analysis can predict the significant factors and explains the direction of relationship between dependent and independent variables and also provides a check on independent variables. Independent variables must not be highly correlated when regress to explore their impact on dependent Table 4.19 shows the correlation of variables for comparison of performances crowd-funded and non-crowd funded firms where independent and control variable are positively correlated with dependent variable. Thus, it is concluded that crowdfunding source has positive impact on post campaign firm performance. Correlations analysis therefore supports hypothesis regarding comparison of performances crowd-funded and non-crowd funded firms. Correlation analysis also indicates that independent variables are not highly correlated with each other and can be regress to investigate their impact on dependent variable.

TABLE 4.19: Correlations of Variables: Comparison of Performances of Crowdfunded and Non-Crowdfunded Firms

Variables	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Performance	1						
Funding Source	0.704***	1					
Equity	0.109***	0.049	1				
Investors	0.129***	0.046	0.891***	1			
Largest Investment	0.155***	0.140***	0.109***	0.335***	1		
Business Followers	0.172***	0.151***	0.088***	0.651***	0.465***	1	
Social Followers	0.069**	0.046	-0.056	0.153***	0.037	0.146***	1

4.6.3 Results: Comparison of Performances of Crowdfunded and Non-crowdfunded Firms

One of the objectives of this study is to compare the performance of crowdfunded and non-crowdfunded firm performance. Logit regression analysis has been used to explore the impact of crowdfunding or non-crowdfunding on firm performance. Table 4.20 shows the results of logit regression analysis (beta coefficient with level of significance, robust standard error in parentheses and Marginal effects). Model 1 shows the relationship between control variable (campaign characteristics) and firm

performance. Pseudo R^2 of campaign characteristics is 0.381 with Wald Chi Square value of 113.342 significant. Beta coefficients for equity, number of investors, largest investment, business followers, and social followers are positive and significant ($p<0.01$) in predicting firm performance. Model 2 results in 0.643 pseudo R^2 in firm performance with Wald Chi Square value of 170.589 positive and significant. Beta coefficient of source of funding is positive and significant ($p<0.01$) in performance. Marginal Effects are 6.7 percent for equity, 0.5 percent for number of investors, 0.005 percent for largest investment, 0.1 percent for business followers, 0.2 percent for social followers, and 406.4 percent for source of funding.

TABLE 4.20: Comparison of Performances of Crowdfunded and Non-Crowdfunded Firms

Main Variable	**Estimate Variable**	**Model 1**	**Model 2**	**Marginal Effect**	**VIF**
Control Variables	Equity	0.045***	0.067***	0.067	1.02
		(0.019)	(0.023)		
	Investors	0.003***	0.005***	0.005	1.86
		(0.001)	(0.001)		
	Largest Investment	2.14E-06*	1.59E-06*	1.50E-06	1.3
		(1.11E-06)	(1.44E-06)		
	Business Followers	0.004***	0.001**	0.001	2.08
		(0.005)	(0.001)		
	Social Followers	0.003***	0.001***	0.002	1.03
		(4.26E-05)	(6.20E-05)		
Independent Variable	Source of Funding		4.064***	4.064	1.31
			(0.329)		
Model Summary	Pseudo - R^2	0.381	0.643		
	Wald Chi Square	113.342***	170.589***		

Standard error in parenthesis
****p<0.01, **p<0.05, *p<0.1*

4.6.4 Discussion: Comparison of Performances Crowdfunded and Non-Crowdfunded Firms

Crowdfunding is just a source of funding to create business trading firms just like raising funds from public, venture capital and angle investors through equity issue or taking loans from banks and financial intermediaries. But crowdfunding is an informal way of fund-raising from large number of investors generally in small amounts for generating private limited companies. Crowdfunding works through

internet where entrepreneurs launch crowdfunding campaigns and use campaign characteristics, personal and social networks to raise funds. Thus, crowdfunding is not only source of funding but also brings some unique characteristics that are positively associated with firm performance.

Campaign characteristics are regressed as control variables to explore the impact of source of funding on firm performance. This study examines the comparison between the performances of the crowdfunded and non-crowdfunded firms. Variance of the inflation factor (VIF) is used to check multicollinearity among the independent variables. If VIF>10, it indicates severe multicollinearity between the independent variables (Cohen et al., 2013; Kleinbaum et al., 1988). As VIF values are far below 10 thus, confirm no severity of multicollinearity among the explanatory variables. Results indicate that source of funding is positively and significantly associated with firm survival (pseudo R^2 of the model 0.643). Hensher and Stopher (2021) has recommended that value of pseudo R^2 ranging from 0.2 to 0.4 indicates good model fit and beyond 0.4 indicates excellent model fit. Thus, this model is excellent fit in predicting post campaign firm survival. It means that when the firms are funded through equity crowdfunding, the probability of post campaign firm survival increases by 406.4 percent more than firms that are non-crowdfunded.

These results support hypothesis 4 that crowdfunded firms perform better than non-crowdfunded firms. Significant better performance of crowdfunded firms than non-crowdfunded firms by remaining active in business trading corroborates the results of previous findings in the context of firm performance by Signori and Vismara (2016); Zhang and Liu (2012); Fontana and Nesta (2009). These findings are also consistent with the findings of previous research in the context of post campaign firm performance in equity crowdfunding by Hornuf et al. (2018); Vismara (2016). These results also find support from the studies of Koch and Siering (2015); Lichtig (2015) in the context of role of success factors as determinants of campaign success in equity crowdfunding. Boeuf et al. (2014); Unger et al. (2011); Vukovic et al. (2010) also conclude similar results in the context of success drive in crowdfunding campaign success. This study uses the approaches of previous studies to observe post campaign impact of success drive on firm performance in equity crowdfunding.

4.7 Impact of Successive Round on Investors - Trust

4.7.1 Description Analysis

Table 4.21 describes the summary of descriptive statistics of all variables of impact of successive round on investors' trust. Descriptive statistics explain main features and behavior of the data of the study. It also provides summary of descriptive statistics about sample and applied measurements. Mean value of successive round shows that majority of campaigns in sample are first and second round of fund raising. It is because; equity crowdfunding is still an emerging business model and equity crowdfunded firms are in developing phase. So, small numbers of firms go for successive fund raising campaigns after first and second successful campaigns. Very high maximum value of largest investment shows the presence of venture capital in equity crowdfunded firms. High mean of target indicates that successive round may help entrepreneurs in meeting high funding target in equity crowdfunding.

4.7.2 Correlation Analysis

Correlation analysis can predict the significant factors and explains the direction of relationship between dependent and independent variables and also provides a check on independent variables. Independent variables must not be highly correlated when regress to explore their impact on dependent variables. Table 4.22 shows that successive round has significant positive correlation with all dependent variables. Correlations analysis therefore supports all hypotheses to test the impact of successive equity crowdfunding round on investors' trust. Correlation analysis also indicates that independent variables are not highly correlated with each other and can be regress to investigate their impact on dependent variable.

TABLE 4.21: Descriptive Statistics: Impact of Successive Round on Investors' Trust

Variables	**Observations**	**Mean**	**Maximum**	**Minimum**	**Standard Dev.**
Successive Round	1081	1.289547	6	1	0.669696
Fund Raised	1081	683162	20000000	12000	1160410
Overfunding	1081	163.0407	1104	100	87.66965
Target	1081	405564.9	20000000	12000	773612.5
Equity	1081	14.45195	54.27	1.02	7.470198
Investors	1081	614.5624	35899	7	1453.848
Largest Investment	1081	153305.5	5000000	1000	337381.8
Idea Explanation	1081	960.555	3813	164	523.2141
Documents	1081	2.938945	13	0	1.861891
Financial Forecast	1081	0.53284	3	0	0.504686
Directors	1081	2.946346	24	1	1.804544
Foreign Directors	1081	0.571693	8	0	0.996612
CF Experience	1081	0.271045	1	0	0.444705
Social Forums	1081	2.943571	6	0	1.091871

4.7.3 Results: Impact of Successive Round on Investors' Trust

This study also estimates the role of successive round of crowdfunding campaign on investors' trust that may result in subsequent campaign success with huge targets, high fund-raising, high overfunding, low equity requirement, large number of investors and large investments from professional investors. Regression analysis is used to explore the relationship between independent and dependent variables along with control variables. Table 4.23 shows the results of regression analysis between successive rounds and target amount in equity crowdfunding campaigns.

Findings in Table 4.23 show that equation 3.11 explains 51.8 percent variance in target amount in equity crowdfunding. Beta coefficients are 0.074 for successive round, 0.351 for financial forecast, 0.115 for directors, and 0.978 for CF experience and, 0.129 for social forums in relation to target amount. Beta coefficients of independent and control variables are positive and significant ($p<0.01$) in relation

TABLE 4.22: Correlation of Variables: Impact of Successive Round

Variables	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Successive Round	1						
Fund Raised	0.444***	1					
Overfunding	0.571***	0.488***	1				
Target	0.332***	0.866***	0.289***	1			
Equity	-0.371***	-0.141***	-0.206***	-0.116***	1		
Investors	0.338***	0.824***	0.427***	0.841***	-0.139***	1	
Largest Investment	0.431***	0.621***	0.386***	0.438***	-0.153***	0.327***	1
Idea Explanation	-0.006	0.161***	0.017	0.139***	0.121***	0.064**	0.078***
Documents	0.036	0.225***	0.229***	0.123***	-0.103***	0.158***	0.211***
Financial Forecast	0.127***	0.304***	0.268***	0.218***	0.028	0.219***	0.193***
Directors	0.138***	0.388***	0.184***	0.311***	-0.124***	0.273***	0.268***
Foreign Directors	0.096***	0.285**	0.143***	0.212***	-0.116***	0.244***	0.202***
CF Experience	0.407***	0.511***	0.341***	0.411***	-0.171***	0.357***	0.401***
Social Forums	0.073**	0.209***	0.174***	0.156***	-0.091***	0.176***	0.139***

Variables	**8**	**9**	**10**	**11**	**12**	**13**	**14**
Idea Explanation	1						
Documents	-0.040	1					
Financial Forecast	0.206***	0.406***	1				
Directors	0.161***	0.204***	0.271***	1			
Foreign Directors	0.039	0.191***	0.166***	0.417***	1		
CF Experience	0.107***	0.230***	0.296***	0.423***	0.253***	1	
Social Forums	0.018	0.308***	0.219***	0.168***	0.118***	0.232	1

to target amount in equity crowdfunding. Probability of F-static is significant ($p<0.01$) that shows the linear regression model is appropriate in explaining the relationship between dependent and independent variable.

Findings in Table 4.24 show that equation 3.12 explains 45.7 percent variance in target amount in equity crowdfunding. Beta coefficient of successive round is (0.285) positive and significant ($p<0.01$) in relation to funds raised in equity crowdfunding. Beta coefficients of control variables are 5.26E-07 for target, 0.0001 for idea explanation, 0.202 for directors, and 1.93E-06 for investors, also positive and significant ($p<0.01$) in relation to funds raised in equity crowdfunding except number of investors. Probability of F-static is significant ($p<0.01$) that shows

TABLE 4.23: The Impact of Successive Crowdfunding Round on Target

Main Variables	**Estimate Variables**	**Regression Coefficient**	**Significance**	**VIF**
Control Variables	Financial Forecast	0.351	0.0001	1.2
		(0.044)		
	Directors	0.115	0.0001	1.2
		(0.013)		
	CF Experience	0.978	0.0001	1.3
		(0.057)		
	Social Forums	0.129	0.0001	1.5
		(0.019)		
				1.1
Independent Variable	Successive Round	0.075	0.0083	
		(0.034)		
Observations	1081			
Adj. R - Square	0.518			
F – Static	232.792			
Probability (F – Static)	0.0000			

TABLE 4.24: The Impact of Successive Crowdfunding Round on Fund Raised

Main Variables	**Estimate Variables**	**Regression Coefficient**	**Significance**	**VIF**
Control Variables	Target	5.26E-07	0.0001	1.6
		(5.89E-08)		
	Idea Explanation	0.0001	0.0001	1.05
		(4.70E-05)		
	Directors	0.202	0.0001	1.12
		(0.014)		
	Investors	1.93E-06	0.09503	2.5
		(3.03E-05)		
Independent Variable	Successive Round	0.285	0.0001	1.14
		(0.038)		
Observations	1081			
Adj. R - Square	0.457			
F – Static	182.607			
Probability (F – Static)	0.0000			

the linear regression model is appropriate in explaining the relationship between dependent and independent variable.

TABLE 4.25: The Impact of Successive Crowdfunding Round on Overfunding

Main Variables	**Estimate Variables**	**Regression Coefficient**	**Significance**	**VIF**
Control Variables	Target	4.83E-05	0.0001	3.8
		(5.04E-06)		
	Directors	2.534	0.0311	1.1
		(1.174)		
	Largest Investment	4.87E-05	0.0001	1.5
		(7.00E-06)		
	Investors	0.034	0.00001	3.5
		(0.003)		
Independent Variable	Successive Round	56.883	0.00001	1.3
		(3.383)		
Observations	1081			
Adj. R - Square	0.444			
F – Static	173.788			
Probability (F – Static)	0.0000			

Findings in Table 4.25 show that equation 3.13 explains 44.4 percent variance in overfunding in equity crowdfunding. Beta coefficient of successive round is 56.883 in overfunding which is positive and significant ($p<0.01$) in relation to overfunding. It shows increase in overfunding in successive rounds. Beta coefficients of control variables are 4.83E-05 for target, 2.535 directors, 4.87E-05 for largest investment, and 0.034 for investors, also positive and significant ($p<0.01$) in relation to overfunding in equity crowdfunding. Probability of F-static is significant ($p<0.01$) that shows the linear regression model is appropriate in explaining the relationship between dependent and independent variable.

Findings in Table 4.26 show that equation 3.14 explains 14.5 percent variance in equity offered in equity crowdfunding campaign. Beta coefficient of successive round is negative and significant ($p<0.01$) in relation to equity offered. Beta coefficients of foreign directors (-0.47) and social forums (-0.382) are also negative and significant ($p<0.05$) in relation to equity offered in equity crowdfunding. Probability of F-static

TABLE 4.26: The Impact of Successive Crowdfunding Round on Equity

Main Variables	**Estimate Variables**	**Regression Coefficient**	**Significance**	**VIF**
Control Variables	Target	4.26E-07	0.3476	1.46
		(4.54E-07)		
	Directors	-0.213	0.1049	1.32
		(0.131)		
	Foreign Directors	-0.47	0.0184	1.43
		(0.199)		
	Social Forums	-0.382	0.0555	1.11
		(0.197)		
Independent Variable	Successive Round	-4.101	0.00001	1.19
		(0.324)		
Observations	1081			
Adj. R - Square	0.145			
F – Static	37.891			
Probability (F – Static)	0.0000			

is significant ($p<0.01$) that shows the linear regression model is appropriate in explaining the relationship between dependent and independent variable.

Findings in Table 4.27 show that equation 3.15 explains 20.5 percent variance in number of investors in equity crowdfunding campaigns. Beta coefficient of successive round is positive and significant ($p<0.01$) in relation to number of investors. Beta coefficients of control variables are 128.0792 for directors, 282.8685 for financial forecast, 0.000659 for largest investment, and 119.9818 for social forums, also positive and significant in relation to number of investors in equity crowdfunding. Probability of F-static is significant ($p<0.01$) that shows the linear regression model is appropriate in explaining the relationship between dependent and independent variable.

Findings in Table 4.28 show that equation 3.16 explains 29.8 percent variance in largest investment in equity crowdfunding campaigns. Beta coefficient of successive round is (0.484) positive and significant ($p<0.01$) in relation to largest investment. Beta coefficients of control variables are 0.001 for idea explanation, 0.193 for directors, 0.085 for foreign directors, and 0.157 for documents, also positive and

TABLE 4.27: The Impact of Successive Crowdfunding Round on Number of Investors

Main Variable	**Estimate Variable**	**Regression Coefficient**	**Significance**	**VIF**
Control Variables	Directors	128.079	0.0069	1.14
		(47.291)		
	Financial Forecast	282.868	0.0001	1.31
		(38.277)		
	Largest Investment	0.001	0.0389	1.13
		(0.001)		
	Social Forums	119.981	0.001	1.07
		(26.932)		
Independent Variable	Successive Round	501.787	0.0034	1.23
		(170.901)		
Observations	1081			
Adj. R - Square	0.205			
F – Static	56.844			
Probability (F – Static)	0.0000			

TABLE 4.28: The Impact of Successive Crowdfunding Round on Largest Investment

Main Variable	**Estimate Variable**	**Regression Coefficient**	**Significance**	**VIF**
Control Variables	Idea Explanation	0.001	0.0005	1.03
		(6.12E-05)		
	Directors	0.193	0.0001	1.06
		(0.019)		
	Foreign Directors	0.085	0.0153	1.28
		(0.035)		
	Documents	0.157	0.001	1.23
		(0.017)		
Independent Variable	Successive Round	0.484	0.00001	1.02
		(0.047)		
Observations	1081			
Adj. R - Square	0.298			
F – Static	93.086			
Probability (F – Static)	0.0000			

significant in relation to largest investment in equity crowdfunding. Probability of F-static is significant ($p<0.01$) that shows the linear regression model is appropriate in explaining the relationship between dependent and independent variable. Results indicate that in successive rounds, largest investments increases in values because venture capitals are more interested in stable firms for making investments. Successive rounds are normally associated with stable firms that are growing in business thus, go for next equity crowdfunding round to expand business.

4.7.4 Discussion: Impact of Successive Round on Investors' Trust

Findings of impact of successive round on investors' trust suggest that subsequent equity crowdfunding campaign can work as quality signal and develop trust worthiness between entrepreneur and investors. Variance of the inflation factor (VIF) is used to check multicollinearity among the independent variables. If VIF<10, it indicates severe multicollinearity between the independent variables (Cohen et al., 2013; Kleinbaum et al., 1988). VIF values confirm no severity of multicollinearity among the independent variables because VIF values are far below 10. Successive round is positively and significantly associated with target amount (Table 4.23) in equity crowdfunding. It means with the increase in number of subsequent round, there is an increase in target amount successfully collected in an equity crowdfunding campaign. Successive round is positively associated with funds raised against targeted amount (Table 4.24) in equity crowdfunding campaigns. Additional fund-raising against targeted amount is always high desire of entrepreneurs. Subsequent funding round is a good predictor of firm survival (Hornuf et al., 2018) that can signal to investors about the potential of a firm future success. Thus, investors make investment decisions in subsequent equity crowdfunding campaigns that may results in achieving high funding targets and also may result in high fundraising against targeted amount in successive rounds. So, hypothesis H8a that successive equity crowdfunding campaign increases the probability to achieve high funding target and hypothesis H8b that successive equity crowdfunding campaign increases the probability to achieve high fund-raising against the target in equity crowdfunding are accepted on the bases of these supporting significant results.

There are also supporting results for these relationships from previous studies by Di Pietro et al. (2023); Butticè et al. (2020); Signori and Vismara (2018) in the context of follow up funding in equity crowdfunding.

Successive round is positively and significantly associated with overfunding (Table 4.25) in equity crowdfunding campaigns. Overfunding is percentage of fund raised against goal in equity crowdfunding. Subsequent funding round attract professional investors (Hornuf et al., 2018) whose participation in equity crowdfunding campaign increase overfunding in equity crowdfunding campaign (Martínez-Gómez et al., 2020). That may be why with the increase in number of successive round, there is an increase in overfunding. Impact of successive round on equity offered is negative and significant (Table 4.26). It means with the increase in number of successive round, there is decrease in equity offered by entrepreneur in subsequent rounds. Equity offered is positively associated with campaign success because equity contribution by founders is a sign of quality that impact the uncertainty about the firm and also investors' decision of investment (Ahlers et al., 2015). But successive round is stronger quality signal than equity signal that help entrepreneur to attract investors with low equity contribution in subsequent crowdfunding campaigns. It can be concluded that subsequent equity crowdfunding campaign may help to achieve high funding targets even with lower level of equity interest in the venture in subsequent fund-raising campaign. Thus, these supporting significant results support hypothesis H8c that successive equity crowdfunding campaign positively influences on overfunding and hypothesis H8d that successive equity crowdfunding campaign negatively influence level of equity offering in a campaign of equity crowdfunding. There are also supporting results for these relationships from previous studies by Martínez-Gómez et al. (2020); Hornuf et al. (2018); Mollick and Nanda (2016).

Successive round influences number of investors positively and significantly (Table 4.27) in subsequent equity crowdfunding rounds. Findings suggest that with the increase in number of successive round, number of investor increases. It is because successive round after a successful equity crowdfunding campaign shows past achievement of successful fund-raising by a firm. Studies suggest that past achievements work as costly signals for potential investors (Di Pietro et al., 2021).

Thus, subsequent round also works as costly signals which have more attraction for investors than cost-less signals. Successive round is positively and significantly associated with largest investment in equity crowdfunding campaign (Table 4.28). Largest investment generally shows the presence of professional investors in equity crowdfunding. Subsequent equity crowdfunding campaign may have great attraction not only for small investors but also for business angels and venture capitalists to pledge their large investments in equity crowdfunding campaigns (Hornuf et al., 2018). There are also supporting findings from the study of (Butticè et al., 2020) that successful equity crowdfunding campaigns have more probability of attracting investments from venture capital firms than other sources of funding. That may be why with the increase in number of successive round, there is increase in largest investment in subsequent equity crowdfunding campaign. Thus, these findings are in support of hypothesis H8e that successive equity crowdfunding campaign positively influences on number of investors, offering investment in the project and hypothesis H8f that successive equity crowdfunding campaign positively influence single largest investment offer by investor in the project of equity crowdfunding. These findings are in consistent with the results of previous studies in the context of quality signals and subsequent fund-raising in equity crowdfunding by Di Pietro et al. (2023); Martínez-Gómez et al. (2020); Bapna (2019); Hornuf et al. (2018); Lukkarinen et al. (2016).

4.8 Summary of the Chapter

The purpose of this chapter is to explore the determinants of campaign success and overfunding, mediation in firm performance, comparison of performances between crowdfunded and non-crowdfunded firms, determinants of post campaign firm performance and role of successive round as quality signal in equity crowdfunding. By analyzing descriptive statistics and correlations of variables, results support all hypotheses of the study. Multivariate regression analysis reveals that campaign characteristics are significant in campaign success and overfunding. Campaign characteristics also influence post campaign firm performance that is why crowdfunded firms perform better than non-crowdfunded firms. This chapter also explains that

campaign characteristics, directors' characteristics and social network activities have positive significant influence on post campaign firm performance. This chapter further gives insight into the role of successive equity crowdfunding round as quality signal in developing investors' trust. These results confirm the associations that are claimed in all hypotheses of the study except one hypothesis of mediation between campaign characteristics and firm performance.

Chapter 5

Conclusion, Policy Implication and Future Research Directions

5.1 Conclusion

Entrepreneurs are always in search of ways that may lead to successful fund-raising campaigns. Observing different attitude of investors towards some campaigns that results in overfunding to a considerable high level than target, entrepreneurs are also interested to seek the factors behind this attitude for achieving overfunding than target. Researchers try to explore different factors that may be helpful in successful campaign in the context of reward-based and other type of crowdfunding. Post campaign firm performance is real goal of all this activity of equity crowdfunding because of probability of post campaign business failure. Investors are interested to predict post campaign firm success for making rational and relatively safe investment decisions. Investors' investment preference in successive equity crowdfunding round is also interesting for entrepreneur. Literature is silent to answer these questions because of lack of empirical research in the field of equity crowdfunding. By using multivariate regression analysis techniques on the data collected from equity crowdfunding platform, Crowdcube, this study tries to fill this literature gap.

This study has explored that campaign characteristics are significant in predicting equity crowdfunding campaign success and also identified some campaign characteristics that may result in successful equity crowdfunding campaigns. Overfunding in

equity crowdfunding is considered as entrepreneurs' success in attracting small as well as professional investors and in raising amounts beyond target. Entrepreneurs welcome overfunding and try to find out ways for maximum overfunding in campaigns. This study gives an insight into the overfunding phenomenon by exploring the factors that result in overfunding in equity crowdfunding. Findings uncover the significant impact of quality signals, directors' information and social network activities on overfunding. Investors in equity crowdfunding behave in same way as in traditional financing, give more weightage to quality signals than social network activities. Founders and entrepreneurs must focus on campaign characteristics and directors' information for overfunding because campaign characteristics and directors' information are the first information that investors can access on platform in evaluating investment opportunities. Social network activities are also important in influencing investors' decision but findings suggest that these are supporting activities while campaign characteristics and directors' information are primary factors in overfunding. These findings help out founders to know success factors and design campaigns for considerable overfunding success. Thus, these results evidence that objectives one and two of the study have been achieved.

Post campaign firm performance is most important outcome for investors in equity crowdfunding. Campaign characteristics are helpful in fund-raising to start and grow a successful business. Thus, campaign characteristics also influence post campaign firm performance. Results reveal that there is direct association between campaign characteristics and firm performance without ant mediation impact of crowdfunding. Comparison between crowdfunded and non-crowdfunded firm performance suggests that crowdfunded firms are more likely to perform better by remaining in active business trading while non-crowded firms are more likely to dissolve than crowdfunded firms. Probability of post campaign business failure is a great concern for entrepreneurs and investors. Measuring post campaign firm performance with post campaign firm survival and asset growth, this study gives insight into the role of success factors in increasing probability of post campaign survival and asset growth. Success factors in a campaign not only play important role in successful fund-raising but also increase the probability of post campaign firm performance. Presence of success factors enhances success rate of crowdfunding

campaign while the magnitude of these success factors increase the probability of post campaign business success. Increase in the magnitude of quality signals (campaign and directors' characteristics) and in electronic word of mouth (social network activities) increase the probability that a firm remain in active business trading. It is also concluded that both success factors are almost equally influence post campaign firm survival but quality signals are more important in asset growth than electronic word of mouth. But results suggest significant supporting role of electronic word of mouth (social network activities) in asset growth as well. Industry wise firm distribution shows that firms in fintech industry receive highest magnitude of success factors that enable these firms to perform well and remain active. That is why high magnitude of success factors results in highest firm active rate for fintech industry. These findings help out potential investors to predict post campaign firm survival and asset growth before going to make investment decision in equity crowdfunding campaigns with the help of quality signal and electronic word of mouth. Thus, it also evidences that objectives three, four and five of the study have been achieved.

Successive round in equity crowdfunding is perceived as quality signal by potential investors because researches suggest that subsequent funding round is a good predictor of post campaign firm survival. Previous researches find out number of success factors that work as quality signals and lead the campaign to success. Results of this study suggest that successive round is a strong quality signal that has positive and significant impact on investors' trust and success factors in subsequent fund-raising. Increase in investors' trust due to successive round, increases the magnitude of success factors and helps entrepreneurs in successful high fundraising campaigns. Successive round helps firms to meet high funding targets and in achieving high overfunding that is most important desire of entrepreneurs. High level of equity is associated with campaign success but successive round helps entrepreneurs to meet high fund-raising even with low level of equity offering. Successive round not only attract crowd investors but also professional investors such as venture capital and angel investors. That is why with increase in number of successive round, number of investors and largest investment increases. Thus, these results suggest that objectives six of the study has been attained.

This study contributes in literature empirically by enriching literature in empirical research in equity crowdfunding and opens-up research avenues for future researches. Findings of this study are very helpful for entrepreneurs and investors in taking rational decisions. Thus, this study results in practical contributions for entrepreneurs, firms and investors. Findings of this study can help Funds seekers in successful fund-raising and also help investors to evaluate good opportunities for investments decisions.

5.2 Policy Implication

The findings of this research are very helpful practically for both entrepreneurs as well as investors on crowdfunding platforms. These findings also contribute in literature empirically.

5.2.1 Practical Contribution

Findings of this study regarding overfunding are very helpful practically, for entrepreneurs and investors who use crowdfunding platforms. This study offers following practical contributions that might helpful for entrepreneurs and investors while using crowdfunding platform and making investment decisions.

1. Entrepreneurs are in search of factors that help them toward successful crowdfunding campaign. Campaign characteristics that are identified in this study are helpful for entrepreneurs and founders in equity crowdfunding campaign success.

2. Quality signals are most important criteria for investors to evaluate a project while taking investment decision in online investment opportunities. So, entrepreneurs may focus on quality signals with support of social network activities to attract large investments that result not only in successful campaign but also in overfunding.

3. Post campaign firm performance is prime interest of entrepreneurs and investors. This study suggests direct impact of campaign characteristics

in firm performance thus, enabling the investors to forecast post campaign performance on the basis of campaign characteristics.

4. These findings are helpful for investors to decide whether to invest in crowdfunded or non-crowdfunded firms because crowdfunded firms perform better than non-crowdfunded firms.

5. The findings of this research regarding firm performance are very helpful practically for both entrepreneurs as well as investors on crowdfunding platforms. Investors always want to invest in safe and endure business for return and maximization of their wealth. This can be achieved when a firm continues trading and remains active with accelerating asset growth. Thus, findings of this study are helpful for the investors to evaluate a project and to choose the good project that has the potential for future survival and asset growth because of having good quality signals and good electronic word of mouth.

6. The findings of this research regarding successive round are very helpful for entrepreneurs in designing strategic goals. Subsequent round works as quality signal that helps entrepreneurs in achieving high funding target that may be difficult to achieve in first campaign. Previous studies suggest that small targets are associated with campaign success. Large targets can meet funding requirements of business but have risk of unsuccessful campaign. So this study helps entrepreneurs to design a strategy for setting small funding targets in first campaign and then use that past successful campaign as quality signal to meet large funding targets in subsequent round. These findings help entrepreneurs to design successive round of equity crowdfunding campaign for high fund-raising and higher rate of overfunding.

7. Equity requirement is one of the important success factors in successful crowdfunding campaigns but high equity requirement increases entrepreneur cost to launch a campaign. This study suggests that successive round is a strong quality signal that lower the equity requirement and can predicts campaign success even with lower level of equity. Thus, these findings help entrepreneurs to launch campaign even with low level of equity.

8. Findings of this study are helpful practically to design successive equity crowdfunding campaign to attract large number of investors and large investments from professional investors with low equity requirements.

5.2.2 Empirical Contribution

Empirically, this study is an important contribution in the literature and opens up new ventures for empirical research in the field of equity crowdfunding. Literature in crowdfunding is lacking in empirical research, especially in the context of equity crowdfunding (Caputo et al., 2022; De Crescenzo et al., 2020; Mochkabadi and Volkmann, 2020). Thus, this research work is an important contribution in that enhance literature in empirical research. This study offers following empirical contributions that might helpful for entrepreneurs, investors and future research scholars for understanding equity crowdfunding phenomenon.

1. The findings of this study are an important addition in literature in the context of success factors in equity crowdfunding campaign success.

2. This research enhances the literature in new aspects of equity crowdfunding, overfunding and elaboration likelihood model, empirically. Use of elaboration likelihood model to study investors' behavior in equity crowdfunding, is a novel contribution in the literature.

3. Findings of this study regarding overfunding contribute in literature by providing empirical evidences that investors give more weightage to quality signals than social network activities when they take investment decisions in equity crowdfunding. However, findings suggest that social network activities provide support to entrepreneurs in addressing large number of potential investors.

4. Empirically this study is an important contribution in the literature because the field of crowdfunding is still very new and a limited literature available about this area of research. In last few years, crowdfunding has got market popularity as an alternative funding option to the traditional financing institutions like banks and venture capitalist etc. The rapid increase in

popularity attracts the researcher to go for exploring this newly born field of finance for enhancing its understanding and literature. This research project is not only enhancing the literature in new aspects of crowdfunding but also opens new avenue of research for future researchers.

5. This research enhances the literature in new aspects of equity crowdfunding, mediation, comparison of performance, factors in post campaign firm performance, firm survival and asset growth. Use of elaboration likelihood model to study investors' behavior and impact of success factors on firm performance in equity crowdfunding is a novel contribution in the literature.

6. This research enhances the literature in new aspects of equity crowdfunding, post campaign firm performance, firm survival and asset growth. Use of elaboration likelihood model to study investors' behavior and impact of success factors on firm performance in equity crowdfunding is a novel contribution in the literature.

7. Findings contribute in literature by providing empirical evidences that both success factors (quality signals and electronic word of mouth) are almost equally increase the probability of post campaign firm survival but quality signals are more important than electronic word of mouth in asset growth. Thus, enrich the equity crowdfunding literature about different behavior of success factors in post campaign firm performance.

8. Previous literature discusses role of success factors on campaign success and post campaign performances. This study enhances literature about the impact of successive round as quality signal on investors' trust and also on the magnitude of success factors. It enriches the literature by studying success factors as dependent variables to measure investors' trust and provides empirical evidences of the impact of successive rounds on investors' trust and success factors. This is novel contribution in the literature regarding equity crowdfunding and enhances the literature about new aspect of subsequent equity crowdfunding round as quality signal and also its impact on investors' trust that results in high target success, high fund-raising, high overfunding, and large number of investors.

5.3 Limitations

This study is not free from limitations and future researches can address these limitation. First is that the data from single crowdfunding platform can limit the generalizability of results. Secondly, the focus on only equity crowdfunding ignoring other form of crowdfunding such as reward-based crowdfunding and peer-to-peer lending, can reduce the acceptability of results across the crowdfunding phenomenon. Third, identifying limited campaign characteristics that influence campaign success may not develop complete understanding about the success factors because campaigns have many more characteristics when launched on crowdfunding platforms.

Fourth, initiating the mediation in equity crowdfunding post campaign firm performance by testing only one mediator may not produce concrete results. Fifth, data from Facebook and Twitter accounts for capturing impact of electronic word of mouth may not capture real impact of social media on equity crowdfunding phenomenon because there are number of other social media platforms getting popularity in business communities. Sixth, investigating impact of successive rounds on six success factors may reduce the applicability of results in understanding the role of successive round in developing investors' trust. There may be other success factors influenced by successive rounds and other control variables may influence success factors.

5.4 Future Research Direction

Along with other practical and empirical contribution, the limitations of this study open up new avenue of future research. Future researches will be devoted to resolve these limitations of the study.

Many other campaign characteristics are associated with equity crowdfunding campaigns (Anindyaswari and Wijaya, 2020) that can also be checked to identify more success factors in campaign success. Some observations are underrepresented i.e. unsuccessful campaigns, successive round. Future research can be initiated with

balanced representation of all possible variables (Cicchiello and Kazemikhasragh, 2022).

Overfunding is also phenomenon of other form of crowdfunding such as reward-based and peer-to-peer lending. Future research can be initiated to explore overfunding in other form of crowdfunding to enhance literature in empirical research in the context of other forms of crowdfunding (Sendra-Pons et al., 2023; Li et al., 2022). There are other number of factors may be significant in overfunding and firm performance (firm survival and asset growth) (Martínez-Gómez et al., 2020). Firm performance can also be measured with more acceptable proxies like ROA, ROE, sales growth etc. that may enhance generalization of results. Future research may be extended to uncover other influencing factors in overfunding and firm performance.

Data from other platforms can reduce data limitation problems and may give more generalizable results (Baber and Fanea-Ivanovici, 2023; Kleinert et al., 2020). Future research can be extended to explore and compare overfunding and post campaign firm performance on other equity crowdfunding platforms. Future studies can be conducted to explore more possible significant mediators and moderators in post campaign performance. Data from other possible social media forums can help to increase generalization of the impact of social network activities on overfunding and firm performance. Future research can also be initiated to uncover the role successive round as quality signals to influence on success factors and investors' trust by including other possible variables.

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