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An empirical study of entrepreneurial passion in the crowdfunding context: an equity crowdfunding focus and a cross-industry perspective

MASTER'S THESIS IN
MANAGEMENT ENGINEERING

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EXECUTIVE SUMMARY OF THE THESIS

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TESI MAGISTRALE IN MANAGEMENT ENGINEERING – INGEGNERIA GESTIONALE

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1. Introduction

The subject of analysis is the influence that entrepreneurial displayed passion can exercise on campaign success in various crowdfunding contexts. Unlike previous research, this study aims at giving a complete picture of which are the main distinctive factors related to passion and preparedness bringing different effects during video pitches to the campaign success, further comparing outcomes in reward-based and equity crowdfunding at first, and then in different industries.

2. Chapter one: Literature Review

2.1 Crowdfunding

The literature concerning crowdfunding is relatively new compared to other topics in the Entrepreneurial Finance literature. Even if the concept of crowdfunding has deep historical roots, the keyword "crowdfunding" appeared only in 2006, and a first holistic definition was given only in 2010. Over the last ten years, the crowdfunding literature has expanded shedding light on the different crowdfunding models, on the determinants of crowdfunding success, on the characteristics of crowdfunding campaigns and backers, and on the role of the crowd-funders. While most of the studies has focused on reward-based crowdfunding given the more availability of data, recently also equity crowdfunding has emerged as an acceptable and popular alternative way for entrepreneurs to fund their early-stage businesses and as an intriguing research area within the sphere of entrepreneurship. Besides, looking at the overall value of crowdfunding worldwide, if today the value is $13.93 billion, it is supposed to increase by 285%, up to the value of $39.79 billion by 2026, stating the impressive growth crowdfunding is experiencing.

2.2 Entrepreneurial Passion

In parallel, research have been investigating extensively professional investors' investment decision-making process; entrepreneurial passion

is profoundly entrenched in the practice of entrepreneurship and the role of affect has been increasingly studied over the last years as one of decision criteria. This work relies on the definition of passion provided by Chen et al. [4]: it is conceived as "an entrepreneur's intense affective state accompanied by cognitive and behavioral manifestations of high personal value", remarking that passionate individuals are likely to take actions to address their passion, therefore labelling the affective aspect of the discussed feeling as simply "passion", while the cognitive one addressed as "preparedness". Moreover, in Chen et al.'s [4] work it is highlighted how entrepreneurs' preparedness is positively correlated to VC's investment decision, while passion has no significant impact; similar fundings have been found on BA's investment decisions by Cardon et al. [2], although displayed passion role varies depending on the stage of the funding process examined.

Investigations about investment criteria have been conducted about professional investors as well as in reward-based (e.g., [1]) and equity (e.g., [6]) crowdfunding. In particular, Li et al. [5] have highlighted how displayed passion serves to substantially increase the funding amount required by campaigns.

3. Chapter two: Research Questions

From a deep analysis of the literature, it emerges a low number of studies concerning further insights into how crowd-funders attract funding via persuasion. Firstly, in this study, the authors will investigate displayed passion and displayed preparedness in the contexts of the equity crowdfunding comparing them to the effects observed in the reward-based crowdfunding; then, the authors will assess the interaction between displayed passion and preparedness in relation to the campaign success, in the equity crowdfunding context; finally, the authors will focus on the reward-based model in order to assess the influence of passion and preparedness in non-tech sectors rather than purely tech ones.

3.1 The different effects of passion and preparedness: Equity vs Reward-Based Crowdfunding

Literature has written a lot about how a deficiency of early-stage financing hinders the ability of new entrepreneurs to develop their projects. Shiller [7] stated that the financial issues related to financing of start-ups can be solved by an innovative method of securitization named equity crowdfunding, whose campaign success drivers and investors' investment criteria remain very limited. Lukkarinen et al. [6] verified how none of the investment criteria traditionally relevant for VCs or BAs turned out to be significant in predicting success in the equity crowdfunding; besides, they provided suggestive evidence that the investment decision criteria of unaccredited equity crowdfunding investors are more like those of providers of other types of crowdfunding than those of more traditional providers of early-stage financing. Li et al. [5], using a reward-based campaigns sample, discovered that displayed passion plays an important role in determining crowdfunding success, differently from Cardon et al.'s [2] and Chen et al.'s [4] outcomes that highlight preparedness positively associated to campaign success and passion with low or no significance in affecting funding decisions of professional investors. One possible explanation could be that crowdfunding backers likely have low expertise and low vested interest, and thereby rely more on simple cues than on objective fundamentals when making funding decisions. Since it is possible to state that in terms of fundraising process equity crowdfunding is more akin to reward-based crowdfunding than to professional investors, the first and the second hypotheses are proposed:

Hypothesis 1 *In an equity crowdfunding campaign video pitch, an entrepreneur's displayed entrepreneurial passion is positively associated with the project's equity crowdfunding performance.*

Hypothesis 2 *In an equity crowdfunding campaign video pitch, an entrepreneur's displayed preparedness is positively associated with the project's equity crowdfunding performance.*

Over years, a lot of studies have been conducted to analyze which factors are associated with the probability of a successful crowdfunding campaign. However, such analyses have been

performed mostly on reward-based campaigns, looking generally at Kickstarter. Lukkarinen et al. [6] conducted one of the first research focused on the determinants of equity crowdfunding success, explaining especially that the availability of financials in the pitch of an equity crowdfunding campaign is positively associated with the number of investors, albeit not significantly related to the amount raised. To the extent of this research, although entrepreneurial passion is relevant for equity crowd-funders, it can have much more relevance for reward-based crowd-funders because they do not depend on a financial return; for crowd-funders supporting an equity model the risk assessment of the investment will be more important. Accordingly, it can be assumed that an entrepreneur can more likely persuade an investor with his passion to support his project if the person does not aim to receive a monetary return. Hence,

Hypothesis 3 *The positive effect of displayed passion in equity crowdfunding is lower than the one in reward-based crowdfunding*.

When talking of equity crowdfunding, the authors refer to investors which are more professional compared to the ones of reward-based crowdfunding but still they are not all VCs or BAs. Moreover, with respect to reward-based crowd-funders, it is possible to affirm that equity investors consider entrepreneurs' preparedness more as a pre-requirement for their funding decision. Equity fundraisers are conscious to target a more sophisticated public than in the reward-based case and so they have to show to be prepared, otherwise they will risk not to receive any funding. Thus,

Hypothesis 4 *The positive effect of preparedness in equity crowdfunding is lower than the one in reward-based crowdfunding.*

Equity investors, differently from reward-based backers, disregard more those projects with a low displayed preparedness even in case of a sufficiently high degree of entrepreneurial passion displayed, being them more sophisticated. It is possible that, instead, the solely effect of high passion or high preparedness in reward-based crowdfunding is deemed sufficient to consider a campaign worth to be funded; on the other hand, equity investors could perceive a high displayed preparedness as a pre-condition for the entrepreneurs approaching an equity crowdfunding campaign. Starting from these reflections, it is possible to think that a high displayed passion effect added to a high displayed entrepreneurial preparedness could be more effective in an equity crowdfunding context, since entrepreneurs could be perceived even more persuasively and thus, contributing to a higher probability of campaign success.

Hypothesis 5 *When preparedness is high, the effect of passion increases the probability of success of equity crowdfunding campaigns.*

3.2 The different effects of passion and preparedness in the reward-based model: Tech vs Non-Tech projects

In the present work, the authors will specifically focus on Kickstarter's projects divided into two main categories: tech industry-related projects and non-tech industry-related projects. First, this decision comes from observed Kickstarter's data: tech projects are about 8,8% of the total projects published (Top 5 categories), contributing to the 18% of the whole funds collected (top 3 categories) but with the lowest success rate among all the categories (21,43%). Secondly, tech projects are deemed to have different characteristics from other non-tech projects; for instance, Li et al. [5] focused on tech activities because they are less likely to serve as once-off endeavors. It has been demonstrated that in tech and non-tech projects displayed passion and preparedness are positively correlated with crowdfunding success. Anyway, given their different characteristics and being the tech category the one receiving most fundings without reaching success, it is likely that tech entrepreneurs are less able to affect their campaign success by displaying passion towards unsophisticated reward-based crowdfunding backers. From this,

Hypothesis 6 *In reward-based crowdfunding, the positive effect of passion is higher in non-tech projects than in tech projects.*

On the other side, tech-related crowdfunding campaigns backers have been proved to be affected more by the entrepreneur personal experience and background than by contextual elements peculiar to the specific industry. Hence, the tech industry fundraisers may focus more on detailed pitches and business plan descriptions, given the complexity of the matter they are assessing. The risk is to present the project in a very rough way, conveying negative signals to backers who, being

unsophisticated investors, need evidence about the goodness and the project innovation.

Hypothesis 7 *In reward-based crowdfunding, the positive effect of preparedness is higher in tech projects than in non-tech projects.*

4. Chapter three: Dataset description

4.1 Data Sources

The data used for the analysis in the equity crowdfunding context are collected from the Seedrs and Crowdcube's platforms. 100 projects ranging from 2017 to 2018, half successful half not, have been considered. For what concerns the reward-based crowdfunding model instead, the data comes from Kickstarter; through the Web Robots platform, 100 tech and 100 non-tech campaigns have been picked, ranging from 2016 to 2018, each category balanced in terms of successful and failed projects.

4.2 Measures: The Chen scale

The authors relied on the Chen 11-item scale consisting of 6-items measuring displayed passion and of 5-items measuring displayed preparedness; each author, then, gave a score on a 5-point Likert scale to each item. Each video-pitch has been rated by each author independently. Therefore, the ratings were compared, accordingly setting an agreed score in case of large differences in terms of judgement, and the Krippendorff's Alpha coefficient was used as an inter-rater agreement. Eventually, the overall average passion and preparedness scores were computed.

5 Chapter four: Variables and descriptive analysis

The final dataset is composed by 300 observations. While the dependent variable is whether the campaign has been successful or not (*State_campaign*), the independent ones are *passion* and *preparedness*; the moderators introduced are *d_ECF*, to distinguish equity crowdfunding projects to reward-based ones, and *d_TECH*, to separate projects included or not in tech sectors; the authors also introduce some control variables according to literature on crowdfunding, for instance the gender of the entrepreneur, the team size, whether or not the entrepreneur making the pitch had prior experience. At the end, four different models have been developed to test the research hypotheses.

(1)	$Logit\left(State_{campaign}\right) = \alpha_0 + \alpha_n * passion + \alpha_m * preparedness + \alpha_i \sum_{\alpha=1}^{8} Control$
(2)	$Logit\left(State_{campaign}\right) = \beta_0 + \beta_n * passion + \beta_m * preparedness + \beta_a * passion * d_{ECF} + \beta_b * preparedness * d_{ECF} + \beta_i \sum_{\beta=1}^{9} Control$
(3)	$Logit\left(State_{campaign}\right) = \gamma_0 + \gamma_n * passion + \gamma_m * preparedness + \gamma_a * passion * preparedness + \gamma_i \sum_{\gamma=1}^{8} Control$
(4)	$Logit\left(State_{campaign}\right) = \delta_0 + \delta_n * passion + \delta_m * preparedness + \delta_a * passion * d_{TECH} + \delta_b * preparedness * d_{TECH} + \delta_i \sum_{\gamma=1}^{7} Control$

Table 5.1: Models' equations

6 Chapter five: Model assessment

6.1 Model 1

In model 1 passion has a positive correlation with success (*p-value 0.003*), verifying H1 and aligned with prior literature since as it increases, the probability of success increases as well by 12 percentage points, ceteris paribus. Instead, H2 is not verified because preparedness is not found to significantly affect success: on the contrary to what happens in reward-based crowdfunding, equity investors can perceive preparedness more as a pre-requirement to be displayed by entrepreneurs seeking fundings, not valuing it in relation to the campaign success.

6.2 Model 2

In model 2, the entire sample of 300 observations is considered and both the independent variables have a positive effect on the success of the venture and are significant at all levels (*passion, p-value 0.000; preparedness, p-value 0.000*). H3 is verified, since the value of the coefficient of passion for the reward-based case is positive, and higher than the one obtained in the equity case. Specifically, when the project belongs to the reward-based category (*d_ECF, p-value 0.000*) as the displayed passion increases by 1%, the campaign success increases by

21 percentage points, ceteris paribus. While in the case of equity crowdfunding pitches (*d_ECF, p-value 0.027*), as the passion displayed increases by 1%, the success still increases, but in a lower measure if compared to the reward-based, only by 7 percentage points, ceteris paribus. This can be affirmed with a confidence level of 5%. Besides, it is relevant to underline that despite what the authors expected, there is no statistical evidence on the comparison of the preparedness effect between the two distinct crowdfunding models.

6.3 Model 3

Model 3 fully verifies H5 at a 5% significance level, for levels of preparedness which are already high. In the context of equity crowdfunding, it is shown how passion is effective on high levels of preparedness, positively influencing the fundraising success. The effect size measured shows that when preparedness is higher than a score equal to 3, the additional passion effect can increase the incidence on campaign success from about 11% to 18%. This has been found to be reasonable by the authors since, being the targeted crowd represented by more sophisticated investors with respect to the reward-based model, if an entrepreneur shows a low level of preparedness, it does not affect backers' investment decisions, even if the displayed passion is substantive. Both entrepreneurs and their audience should be aware that without preparedness, passion is worth little.

6.4 Model 4

Model 4 is focused only on reward-based crowdfunding. Consistent with prior literature, passion and preparedness are positively correlated with success in this context. In addition, passion and preparedness influences on crowdfunding success are compared between tech and non-tech projects. The analyses find that only H6 is partially confirmed, being the influence of passion slightly higher in non-tech projects, while H7 is not verified, being the preparedness effect higher in non-tech projects.

7 Chapter six: Conclusions

7.1 Theoretical contributions

The conducted study has been in part focused on analyzing the effect of passion for different levels of investors' professionalization. More in detail, the results show how entrepreneurial passion affects positively the equity crowdfunding campaign (H1), while nothing can be stated for preparedness (H2). Starting from these results, there could be an association of equity investors' decision-making process to the one of reward-based ones, with the only difference being represented by the fact that preparedness is always considered as a pre-requirement by the investors in equity-based crowdfunding. This last consideration is also confirmed by the fundings of this study stating that, in equity crowdfunding, high displayed passion strengthens high displayed preparedness effect on the campaign success (H5). These results are in line with most of the literature finding positive correlation of passion and preparedness with campaign success. Another important contribution of this study relies on the discoveries made by researching how passion and preparedness affect differently crowdfunding success in different crowdfunding models. The results show a positive impact of passion in both equity and reward-based models with higher effect found in reward-based crowdfunding campaigns (H3), while Model 2 did not bring any statistical evidence on the comparison of the preparedness effect (H4). These results show how equity investors may pay more attention to the financial characteristics and returns of the projects supported than the less sophisticated reward-based ones. Finally, non-tech sectors' campaign success in reward-based crowdfunding show to be more influenced by displayed passion than in tech ones (H6), and the same occurs with preparedness (H7). These results are in part aligned to the Chan et al. [3] work stating that higher level of expertise of investors backing technology projects could justify the lower influence of passion and preparedness on the success for this pitches' category.

Model	Hypothesis	Results
Model I	*(H1) In an equity crowdfunding campaign video pitch, an entrepreneur's displayed entrepreneurial passion is positively associated with the project's equity crowdfunding performance.*	*Displayed entrepreneurial passion positively influences the crowdfunding success in equity crowdfunding, being significant at all levels (p-value 0.003).*
	(H2) In an equity crowdfunding campaign video pitch, an entrepreneur's displayed preparedness is positively associated with the project's equity crowdfunding performance.	*Preparedness does not present any correlation with the crowdfunding success in equity crowdfunding (p-value 0.176)*
Model II	*(H3) The positive effect of displayed passion in equity crowdfunding is lower than the one in reward-based crowdfunding.*	*Displayed entrepreneurial passion positive effect is lower in reward-based crowdfunding (p-value 0.000) than in equity crowdfunding (p-value 0.027).*
	(H4) The positive effect of preparedness in equity crowdfunding is lower than the one in reward-based crowdfunding.	*Preparedness influence cannot be compared being the confidence intervals overlapped in the two cases.*
Model III	*(H5) When preparedness is high, the effect of passion increases the probability of success of equity crowdfunding campaigns.*	*The effect size measured shows that when preparedness is higher than a score equal to 3, the additional passion effect can increase the incidence on campaign success from about 11% to 18%.*
Model IV	*(H6) In reward-based crowdfunding, the positive effect of passion is higher in non-tech projects than in tech projects.*	*Displayed entrepreneurial passion influence cannot be compared being the confidence intervals overlapped in the two cases.*
	(H7) In reward-based crowdfunding, the positive effect of preparedness is higher in tech projects than in non-tech projects.	*Preparedness influence cannot be compared being the confidence intervals overlapped in the two cases.*

Table 7.1: Models' hypotheses and relative results

7.2. Practical Implications

The authors found that, in an equity crowdfunding context, a one-point increase in displayed entrepreneurial passion generally leads to a 12% (Model 1) increase in campaign success. Only when preparedness is deemed to be high, a high displayed passion rises campaign success chances from about 11% to 18% (Model 3). Hence, it is suggested that entrepreneurs launching an equity crowdfunding project should invest time and effort in developing a campaign video that clearly demonstrates their passion for their project. For practitioners, entrepreneurs seeking funds through a reward-based crowdfunding campaign should set up a different video-pitch with respect to equity crowdfunding campaigns. As a matter of fact, for the former displaying only one between high entrepreneurial passion or preparedness is enough to increase the campaign's likelihood of success, while for the latter high preparedness can be considered as a pre-requirement, thus high displayed passion might not be enough to increase campaign success (Model 2). In conclusion, this research contributes also to the understanding of displayed entrepreneurial passion and preparedness influence considering the industry sector addressed by the campaign in a reward-based context: entrepreneurs seeking funds for non-tech projects may be willing to remark more their affective passion and preparedness through the campaign's video-pitch being more effective than for tech ones (Model 4).

List of tables

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Abstract

Funding of new venture might be sustained by different types of investors and all of them can be influenced in various ways by intrinsic characteristics of the entrepreneur which are shown during the pitch presentation. Starting from the evidence of Chen et al. (2009), analyzing the perception of entrepreneurial passion influence on VCs' investment decision, and using Chen's passion and preparedness' scale valuation, the authors investigate how passion and preparedness displayed by the entrepreneurs might influence the funding decision in the context of crowdfunding. A deep dive on the different crowdfunding models is carried out with a subsequent focus on reward-based and equity-based crowdfunding, as well as a further analysis of how passion and preparedness can affect the funding decision across different industries. The focus on crowdfunding is driven by the recent increasing attention towards equity crowdfunding models, as carefully explained by Lukkarinen et al. (2016), and by the general trend on the increasing diffusion of crowdfunding as a funding model spreading quickly. This study brings new insights especially for entrepreneurs seeking funds from a crowdfunding platform. Using a sample of 300 crowdfunding campaigns held between 2016 and 2018, on Crowdcube and Seedrs (for equity crowdfunding) and Kickstarter (for reward-based crowdfunding), the research finds that passion always has a positive effect on the campaign success in the different contexts analyzed, and more specifically, passion has a stronger effect on crowdfunding success in the reward-based context as well as when preparedness is high in the equity crowdfunding model. On the other hand, even though preparedness is not statistically relevant per sé for success, it represents a pre-requirement in the equity crowdfunding model: if it is not displayed, even for high levels of passion, the investors are less willing to finance the project.

Keywords: entrepreneurial passion, equity crowdfunding, reward-based crowdfunding, preparedness, campaign success

Abstract in lingua italiana

Il finanziamento di una nuova impresa potrebbe essere sostenuto da diversi tipi di investitori e tutti loro possono essere influenzati differentemente da alcune caratteristiche intrinseche dell'imprenditore che vengono mostrate durante la presentazione del pitch. Partendo dalle evidenze di Chen et al. (2009) che analizzano la percezione dell'influenza della passione imprenditoriale sulla decisione di investimento dei VC, e utilizzando le scale di valutazione della passione e della preparazione di Chen, gli autori indagano come la passione e la preparazione mostrate dagli imprenditori possano influenzare la decisione di finanziamento nel contesto del crowdfunding. Viene effettuato un approfondimento sui diversi modelli di crowdfunding con successiva attenzione sui singoli reward-based e equity crowdfunding, ed allo stesso tempo un'ulteriore analisi di come la passione e la preparazione possano influenzare la decisione di finanziamento per diversi settori. La scelta dei due modelli è guidata dalla recente crescente attenzione data all'equity crowdfunding, come spiegato da Lukkarinen et al. (2016), e dalla tendenza generale, diffusasi rapidamente, sulla crescita del crowdfunding come modello di finanziamento. Questo studio porta nuovi contributi soprattutto per gli imprenditori che cercano finanziamenti su una piattaforma di crowdfunding. Utilizzando un campione di 300 progetti svolti tra il 2016 e il 2018, prelevati sia da Crowdcube e Seedrs (per l'equity crowdfunding) che da Kickstarter (per il reward-based crowdfunding), la ricerca evidenzia che la passione ha sempre un effetto positivo sul successo della campagna nei diversi contesti analizzati e, più precisamente, la passione ha un impatto maggiore sul successo della campagna quando si tratta del modello reward-based e quando la preparazione è alta per le campagne di equity crowdfunding. D'altra parte, anche se la preparazione non è statisticamente rilevante da sola per il successo, essa rappresenta un prerequisito per il modello di equity crowdfunding: in sua assenza, anche per alti livelli di passione, l'investitore è restio a finanziare il progetto.

Parole chiave: Passione imprenditoriale, equity crowdfunding, reward-based crowdfunding, preparazione, successo della campagna

Contents

Introduction

The recent global health crisis experienced due to the coronavirus outbreak has, at the same time, brought an economic and a social downturn. During the last months, with the progressive vanishing of the pandemic, the economy started to recover and, nowadays, it is possible to observe a gradual but decisive resumption of the business activities and the markets. Likewise, even though applications for new ventures pulled back in the first half of 2020, a flourishing entrepreneurial ecosystem has been restored. Not only was 2020 the best year on records for new business creation since the Census Bureau began tracking it in 2004, but applications for new businesses have continued to soar: in May 2021, there were half a million applications for new businesses just in the US. The boom has been constituted by both businesses composed of only one self-employed person and businesses that the Census expects will employ multiple people [295].

Entrepreneurs are the primary engine of commercial change in the global economy. New ventures need financial capital to develop opportunities, start business ventures and create value over time [219]. Anyway, one of the most important issues facing entrepreneurial firms is their ability to access capital. Since such firms are typically not yet profitable and lack tangible assets, debt financing is usually not an option. Therefore, entrepreneurs tend to rely on three primary sources of financing: venture capital funds, Angel Investors (AI) and corporate investors. Venture capitals refer to funds in which the managing partners invest on behalf of the limited partners. Angel Investors refer to high net worth individuals that invest their own funds in a small set

of companies. Corporations invest on behalf of their shareholders, for financial and/or strategic reasons.

Two major features define entrepreneurial finance above all: the information asymmetries, arising between both entrepreneurs and finance providers, and the investor involvement in portfolio companies. Recent developments, attempting to address this financing gap, have seen the rise of different sources and forms of entrepreneurial finance that may be even in competition: accelerator and incubator organizations, Business Angels syndicates, family funds and sovereign wealth funds have each one different objectives and a different resource base, competing with or complementing traditional financiers. Among these, over the last years, it has been observed a very rapid emergence of different forms of crowdfunding and other peer to peer financing, from rewards through lending to equity crowdfunding, meaning that a range of amounts can be raised to fund entrepreneurial firms at different stages of their development.

Consequently, it is clear how, today, the field of entrepreneurial finance is vivid more than ever.

Much research has tried to investigate in parallel the investors' decision making process criteria; studies on professional investors funding decisions have suggested that the venture idea or opportunity, the market, the management team, and the entrepreneur making the pitch are among the variety of criteria used in making their resource allocation decision. Other prior entrepreneurship research has shown that, among these factors, financiers rely also on "gut feelings", including aspects addressing to the "person" side of the proposed venture. This indicates that capital providers base their funding decisions in part on the technical capabilities and in part on the personal and interpersonal skills of the entrepreneur proposing a new venture.

Starting from the definitions of Vallerand et al. [356] and of Perttula [273], researchers have attempted to evaluate the effects of passion intended as positive affect in entrepreneurship. Chen et al. [81] work, deemed to be a cornerstone of this field, defines "entrepreneurial passion" as an entrepreneur's intense affective state accompanied by cognitive and behavioral manifestations of high personal value; the cognitive aspect of passion is called "preparedness". Many studies have been conducted investigating the links between affective and cognitive passion and venture success, discovering that passion, for instance, plays a significant role in investment decisions for ventures that capitalize on innovativeness and creativity, and that how well prepared an entrepreneur is important in predicting whether a script will be successful or not. Chen et al. [81] also set the foundation to the use of the unimodel of persuasion [209], [212] in the professional investors' decision context and they developed a metric to measure passion and preparedness displayed by entrepreneurs during their pitches.

Over the last few years, with the growing attention gained by the crowdfunding phenomenon, a large body of literature has started to investigate backers' investing decision-making process. The first studies took into consideration mainly the reward-based model (e.g., [89], [107], [222]), being available more data regarding this type of crowdfunding, discovering a positive influence of displayed entrepreneurial passion and preparedness on funding amount collected and venture success. Moreover, equity crowdfunding research expanded from the work of Lukkarinen et al. [229] and Vulkan et al. [366] until very recent studies like the one of Butticè & Vismara [60].

Taking as a reference the above-mentioned literature, the authors of the present work decide to explore furtherly the founding criteria of investors' decision about whether backing or not the project presented through a video pitch on a crowdfunding platform. Specifically, the study aims at discovering the influence that displayed

entrepreneurial passion and preparedness have given different crowdfunding contexts, both in terms of models and of sectors to which the projects belong. This work aims also, for the first time in the research field, to compare the influence of passion and preparedness in different contexts, in order to be useful for future entrepreneurs undertaking crowdfunding as a fundraising choice and to give some hints for future research in this field.

To achieve these goals, the authors developed 4 empirical models based on a sample of 300 crowdfunding campaigns and related video pitches. The thesis is structured as follows:

- Chapter 1 offers an extensive literature review on the topics involved, with particular attention to entrepreneurial passion and its effects on professional investors and crowdfunding backers;
- Chapter 2 explains in detail the research questions that motivate the work and the hypotheses formulated comprehensive of the assumptions that led to them;
- Chapter 3 illustrates the types of data, the datasets and the metric used;
- Chapter 4 describes the methodology, the variables and the models adopted and the reasons behind.
- Chapter 5 proposes clear and comprehensive results obtained from the analyses carried out. It also offers a discussion and comments to critically review the models' outcomes.
- In the end, Chapter 6 is divided in three parts. In the first part, what has emerged in the work is summarized in the conclusion. The second part gives hints about the theoretical and practical contributions that this work offers. The last part clarifies the limitations encountered in carrying out the work and illustrate future research directions.

1. Chapter one: Literature review

1.1 Fundraising for startups

Fundraising is the process intercurred by startups to raise capital to survive their early life stages. “More money just helps to speed up the achievement of various milestones, and to magnify the successes and strengths” [94]. In asking for funds, it is important to determine the “right” size of the investment which could allow the startup to sustain the activities before financial break-even. For this purpose, financial indicators are used such as the Cash Burn Rate and the Runaway. The former represents the rate at which companies use up their cash reserves or cash balance, it is a track of the amount of cash spent before the company generates its own income, mostly used by startups and investors. The latter represents the correspondent number of months covered by the existing funds with the current cash burn rate. Once the amount to be collected is defined, the next step sees the definition of the timing. It is fundamental to collect funds when the value of the company has grown, and the risk is lower: investors are more willing to finance the company in that case.

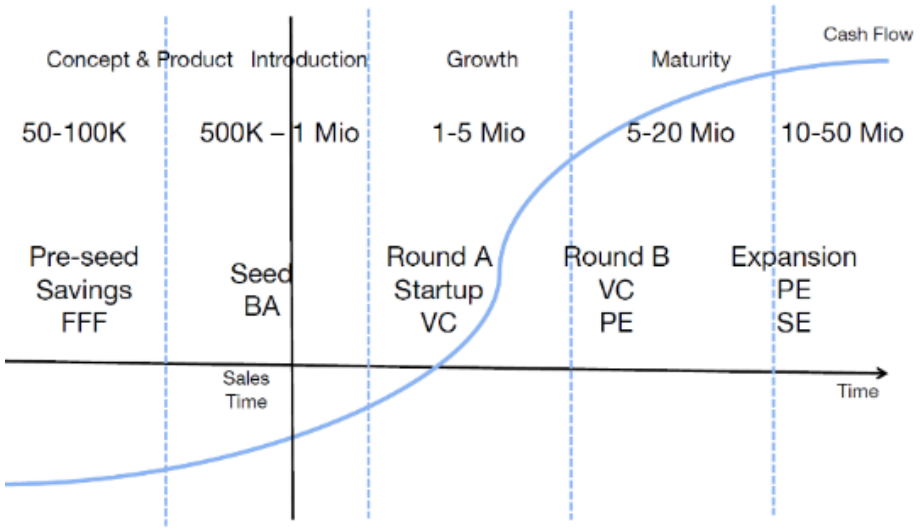

Figure 1.1: Investing rounds

As shown in the graph (Figure 1.1), the rounds that characterize a startups' lifecycle can be divided into pre-seed, seed, round A, round B and later stages. What differentiates each stage from the others are the sources and types of investors, the revenues level and the financial objectives. In the following, a definition of the before mentioned aspects is defined for each stage.

- *Pre-seed stage*: Most of the small businesses and startups handle the need for resources using means other than external finance by applying different typologies of bootstrapping [377]. Among them it is possible to identify delay bootstrapping where there is either the delay of payments or the minimization of capital invested in stock, relationship-oriented bootstrapping, subsidy-oriented and private owner-financed bootstrapping. Here entrepreneurs utilize private owner-financed bootstrapping where the main sources of funding are characterized by savings, family and friends. The revenues are either null or very low and the financial objective is that of keeping the cash burn rate as low as possible.

- *Seed stage*: other than savings, family and friends, crowdfunding and Business Angels (BAs) play a determinant role. The revenues are still very small, and the financial objective is kept constant compared to the previous stage.
- *Round A*: in this case Business Angels and Venture Capitalists (VCs) represent the main sources of funding. The first revenues are reached, and this drives the company towards the achievement of the break-even point. There is a shift in the financial objective based on proving the revenue model works.
- *Round B*: during this phase, the company could think of financing itself with the own operating profit, but VCs still play an important role together with Private Equity funds. This is the moment in which revenues are made, thus operating profit can be calculated. The financial objective clearly shifts towards making profit and the possibility of scaling-up the business.
- *Later stages*: this is otherwise called expansion stage and sees the company not as a startup anymore, rather it sees it ready for PE funds and even the stock exchange. The firm is capable enough to make its initial public offering and it is upon the firm to decide whether to carry on with the sources of finance or not [12]. From a financial point of view the stabilization of cash flows is reached.

The one presented is just one of the different taxonomies for growth and financing cycle of startups identified throughout the years. In literature three steps for the growth of the startups which may be identified in the *creation, development* and *market* phases have been suggested [139], [270] [277]. Many researchers have discussed the existence of a final stage as mentioned above, usually referred to as *later* stage or *market exit,* where the company becomes established or is acquired by major players. Even though, this last one, represents a phase which falls beyond the growing concept of a startup.

- *Creation phase.* During this stage, the startup ideates what the offer made might be, based on the perceptions felt analyzing the market [41], [139]. Market size and consumer behavior are identified and by a financial point of view money is required mostly for the research and development (R&D) which is fundamental so to get the best insights. It happens that in this stage the startup is still on "one-person show" characterized mostly by an informal organization [204], [277].
- *Development phase.* It is the phase during which the business model of the startup is defined in a more solid, structured and formal way. This stage is strongly focused on the creation and testing of the prototypes on the market, released to the customers through minimum viable products. Paschen [270] gives a very specific name to this phase, thus, *startup phase* as both the product and market validation occur.
- *Market phase.* The penetration of the market occurs followed by a scale-up and differentiation of the product offered, at the same time, also the venture expands itself consolidating even more its business model and further formalizing its structure. This is the stage during which the company must success in establishing itself on the market achieving competitive scale.

Moving forward, Shachmurove [310] gives his own classification diving deeper into how the different financing phases differentiate themselves, ending up in the classification of the *early-stage financing, expansion financing* and *acquisition/buyout financing*.

- *Early-stage financing.* The entrepreneur starts the process raising few amounts of capital (*seed financing*), used to prove the concept behind her/his idea and to qualify for startup capital. It is fundamental to be successful in these early stages so to continue by focusing on the product development, the market research,

the building of the management teams and the developing of the business plan. Startups are interested by the acquisition of new funds aimed at financing the product development (*Research and development financing*). The financing is here characterized by a tax-advantage partnership the investors can get usage of, firstly for the tax write-off on the investment itself and secondly in case the product is successful, they will get part of the profit coming from the selling of the new product. Once the product development and the initial marketing are done, more funds will be given to the startup (*Start-up financing*). The business starts to be well set, but the startup still has to sell the products commercially. As soon as the initial capital is expended, more funds are provided (*First-stage financing*) and the manufacturing and selling at a full-scale level is carried on.

- *Expansion financing*. As the startup starts its expansion with the producing and shipping, new funds will be needed (*Second-stage financing*). It is true that during this phase the company may already be successful, but this does not necessarily mean profits will be showing. While, to increase the sales volumes reaching the break-even point or even showing profits, funds are fundamental (*Third-stage or Mezzanine financing*) to lead to the expansion of the plant, marketing, development and improvement of the products. The expansion financing ends up with the provision of additional financing (*Bridge financing*) given to the company if it plans on going public within six to twelve months. This type of financing is made in such a way that it can be repaid through proceeds from a public underwriting and used to restructure the major stockholder positions through secondary transactions. The restructuring can occur for early investors, management, early stockholders and their relatives and associates.

- *Acquisition/Buyout Financing*. During this last stage funds are provided either for financing the acquisition of another company (*Acquisition Financing*) or for the acquisition of a product line or business from a public or private company (*Management/Leverages Buyouts*).

It is possible to combine these two classifications on some level, seeing the former as the mere definition of the stage the startup is living, in terms of business and strategic direction and the latter as the explanation of the financing process characterizing the life of the startups in that specific growing stage.

1.2 Crowdfunding

1.2.1 Crowdfunding definition and overview

The first holistic attempt (e.g., [218]) for the definition of crowdfunding defines it as "an open call, essentially through the Internet, for the provision of financial resources either in form of donation or in exchange for some form of reward and/or voting rights in order to support initiatives for specific purposes". It is interesting to capture that there has been a previous event which might be considered as the first attempt of carrying on a crowdfunding campaign through newspapers. Rodrigo Davies, a researcher at the Center for Civic Media at the MIT – Massachusetts Institute of Technology – sheds light on the crowdfunding campaign introduced by publisher Joseph Pulitzer in his newspaper in "*The New York World*" to raise funds for the pedestal stalled of the Statue of Liberty [32] [106]. Crowdfunding is also defined as a "collective effort of many individuals who network and pool their resources to support efforts initiated by other people or organizations" (e.g., [108]). It has taken hold in the market starting from two main episodes. These may be identified in the launch on

April 11, 2012 of the Kickstarter project "Pebble" by the inventor-entrepreneur Eric Migicovsky and the signing on April 5, 2012 of the Jumpstart Our Business Startups (JOBS) Act by the US president Barack Obama [308], [309]. This latter, legalizing equity crowdfunding, started capturing the attention of the people making them conscious of this new financing success. The former is among the most well-known pre-sales campaigns, and it was able to raise more than $10 million from nearly 70,000 founders on Kickstarter, more than 100 times its funding goal. Consequentially to both the events an innovation in the market for early-stage finance that could have had significant economic consequences was spotted (e.g., [3]). All of what mentioned is considered as a good starting point, but as of today, it is necessary to contemplate all the recent developments that occurred. A more precise definition enhances how crowdfunding can be seen as the combination of microfinance and crowdsourcing. As for the former, crowdfunding entails the provision of relatively small amounts of money (e.g., [165]) and helps entrepreneurs to acquire financial resources for their projects (e.g., [34]). On the other hand, crowdfunding has a lot of characteristics which can be mirrored in crowdsourcing. This is an open call through the Internet (e.g., [218]) where entrepreneurs face the crowd of future users and customers (e.g., [267]) to ask for feedback, ideas and solutions to develop the corporate activities. At this purpose, in the case of crowdfunding entrepreneurs collect money to be invested in their projects together with feedback and suggestions from the crowd of Internet users [89] of voluntary contributors. It is important to highlight how through the process of crowdfunding, bakers do not only provide money, but also the right knowledge to improve the quality of the projects themselves (e.g., [146]) and that is what makes it unique. As a conclusion it is possible to give a comprehensive definition of crowdfunding which must entail necessarily the following concepts: the provision of feedback from crowd-funders which is fundamental in helping the entrepreneur

improving the idea proposed as well as the way in which the idea is presented to the crowd, the crucial role of CF platforms able to connect individuals across the whole globe and the existence of the several CF models which give the possibility to the entrepreneurs of choosing the most appropriate for their final purpose. Keeping in mind these pillars crowdfunding might be defined as "the act of collecting monetary contributions together with feedback and suggestions from a crowd of voluntary contributors (either in form of donation or in exchange for some forms or reward) through an open call on enabling web platforms".

It is also worth mentioning the main classes of actors playing their role in a crowdfunding campaign which are the owners of the projects, fundraisers, either entrepreneurs or individuals with set goals; projects' funders, backers, investors, lenders or donors; and the crowdfunding platform, playing the role of the intermediary enabling the transactions between the fundraisers and the crowd-funders. As of June 2021, Investopedia identifies Indiegogo, SeedInvest Technology, Mightycause, StartEngine, GoFundMe and Patreon among the best crowdfunding platforms to join in order to get a project to be funded [195].

1.2.2 Crowdfunding business models and further taxonomies

To get a deeper understanding of how crowdfunding works, it is worth mentioning the various types of business models that could be more suitable, depending on the final goals of the actors. The most popular classification (e.g., [4], [157], [220], [248]) identifies the following models: *donation-based, reward-based, lending-based and equity-based*. The *pre-selling* model can be also considered as an extension of the reward-based model. The *donation* model is typically adopted by no-profit organizations, it is called donation because in this case the backers do not get any type of return. They mostly

take part in these funding campaigns because driven by an ethical and social choice, by intrinsic motivation. The *reward-based* crowdfunding sees the collection of money in exchange for a reward in the future. The latter is not a financial reward but can be a tangible benefit such as vouchers, prototypes, etc. Usually, its value is lower compared to the donation value so that the owners of the project can keep enough money to finance the project. Thus, founders take part in this type of campaigns because they like the product to be made or more likely because they can get a discount on the selling price. The second to last business model is the *lending-based*. It can be seen as a diverse way of borrowing money, not from banks anymore but from the crowd. Project owners are offered the opportunity of paying back the money at maturity plus an interest rate on the money borrowed. The role of the platform can be of middleman, in this case it is the platform itself that makes the repayment of the money, otherwise it could act just as a matchmaker, connecting the borrowers and the lenders. For this specific type of business model, it is possible to make a deeper analysis discovering Social Lending platforms and Peer-to-Peer lending. The former allows the lending of money at very low interest rates to small enterprises or associations which have a social purpose. The latter can take one of the three following forms: pre-sales - contributors receive the product that the entrepreneur is making, often at a reduced price (e.g., [157]) - traditional lending model and forgivable lending model [261]. Coming to an end, the *equity model* offers crowd-funders the opportunity of getting an ownership stake in the firm they are funding. Investors are offered equity or bond-like shares [4].

Other than the regular business models it is possible to identify some further taxonomies which are based on the money collection scheme, *all or nothing* and *keep it all*, on the timing, *ex-ante crowdfunding, ex-post crowdfunding* and on the presence or absence of an intermediary, *indirect* and *direct crowdfunding*.

- *All or nothing* versus *Keep it all.* In the first case the fundraiser sets a threshold named fundraising goal which represent the minimum amount needed in order to realize the project. Only if the minimum goal is reached the entrepreneur will get the money. Projects of this type are usually characterized by a high degree of innovativeness and high degree of scale. In the second case instead, the fundraising goal is set in the same way, but the entrepreneur will get the money regardless the reaching of the threshold. Usually, this kind of projects tend to fail because of the entrepreneur carrying on a project which might be not fully funded.
- *Ex-ante crowdfunding* versus *Ex-post crowdfunding.* In the former the product has not yet been developed, in the latter, financing occurs looking at a product already made. In this second case the investors might get a percentage of the profits made after selling.
- *Direct* versus *Indirect.* Direct crowdfunding, the investors can choose the project they want to finance, indirect one, in which the investors hand off the funds but do not decide where to allocate them, it is the intermediary, the platform, that decide the allocation.

1.2.3 Equity crowdfunding

Recently, equity crowdfunding has emerged as an acceptable and popular alternative way for entrepreneurs to fund their early-stage businesses and as an intriguing research area within the sphere of entrepreneurship [83], [245] and in particular entrepreneurial decision making [55], [314]. Equity crowdfunding is a fundraising system [4], [366] defined as equity-based when through the on-line investment there is the acquisition of a stake in the company financed: the reward for financing is, in that case, represented by the whole ownership and administrative rights that come

together with having the stake in the company [90]. Equity crowdfunding platforms allow ventures to finance their projects directly from the crowd and tap into its "wisdom" [38], [283]. The potential to attract unrelated investors – i.e., ones other than family members, friends or local businesses – is critical to convince entrepreneurs to seek external equity [14], [363] and raise the necessary funds to achieve their goals, such as internationalization, testing new products, brand development or building a loyal customer base [120]. Equity crowdfunding helps entrepreneurs get around the post-2008 crisis [213] reduction in funds from banks, Venture Capitalists and Business Angels [44], [55], [191], [366]. It has been shown how equity crowdfunding can be associated in an easier way to the BA or the early stages of VC investments [366] rather than to the other types of crowdfunding models. More in the specific, differently from the passive crowdfunding models only involving some rewards for investors, such as products, honorary recognition or other forms of revenue shares, equity crowdfunding not only provides money but also bring the best manner of open sources.

It has been thought in the past that equity crowdfunding might have had a harder time reaching the crowd compared to the rest of the crowdfunding models, given the higher complexity of the contracts, the greater extensity of the due diligence process and the increased levels of investments that justify the preference for funders to intimately known the entrepreneur and their businesses [97],[152]. Nevertheless, the global crowdfunding market size will grow by $89.72 billion during 2018–2022 [335]. Equity crowdfunding has exhibited one of the sharpest annual growth rates in the last few years; in fact, its volume has nearly doubled every year, from $392 million in 2013 to over $4 billion in 2016 [241]. As a result, several countries and regulatory authorities have introduced new laws or specific regulations affecting equity crowdfunding. In this vein, Italy is one of the most important cases, considered of international interest since it is a pioneer in regulating equity crowdfunding and creating a specific public

national registry [128], [280], [296], [362]; the trend of equity crowdfunding investing is steadily increasing, as of June 30, 2020, 42 platforms were authorized by Consob [281]. Considering the total volume of funds raised through crowdfunding in 2020 equal to $114 billion, $4.41 billion have been raised through equity-based crowdfunding [324]. The UK has always been the country showing the fastest growing trend both for the numbers of deals and the amount raised. The annual market value of equity-based crowdfunding has increased from £28, in million, in 2013 to £549 in 2020 [325]. Seedrs, founded by Jeff Lynn and Carlos Silva, has represented the first equity crowdfunding platform accepted in England as a member of the UK Business Angels Association. In the English market, Crowdcube and Seedrs represent the two main platforms used by entrepreneurs. Crowdcube is FCA-approved and hosts campaigns of startups, early-stage and growth-stage businesses. Seedrs has been the first UK-based crowdfunding platform gaining the FCA approval. The platform is well known for the secondary market where investors can trade shares.

1.2.4 Data on Crowdfunding

The rules defined by the Regulation on European Crowdfunding Service Providers (ECSP) for business, entered in place on November 10, 2020, will be applied across entire Europe. Regulations on the investment-based and lending-based crowdfunding related to business financing are defined and laid down uniformly in Europe. In other words, platforms will be able to apply for an "EU passport" based on a single set of rules, which makes it easier for them to offer their services across the EU with a single authorization. As of 2020 [324], the total equity-based crowdfunding value in Europe (the UK included) reached $278.1 million, while reward-based crowdfunding was $175.4 million. Looking at the value of crowdfunding worldwide, if today the value is

$13.93 billion, it is supposed to increase by 285%, up to the value of $39.79 billion in 2026 [324]. Nowadays, the category collecting the more funds is represented by the debt one, while the equity and the donation ones are in second and third position, respectively. In terms of countries [323], the United States can be defined as the leading one, with the United Kingdom in the second. For what concerns the United Kingdom, it was possible to notice an impressive increase in the volumes of the crowdfunding market. The CCAF (Cambridge Centre for Alternative Finance, [76]) identifies two main reasons driving this success. The first one may be explained by the increasingly active role of the platforms in the UK continent, followed by the revision of the UK regulation, especially for P2P Lending, during which the macro-economic changes had a great impact on the portfolio of lending platforms. At the same time, for what concerns the whole Europe, the CCAF find explanations for the doubling of the market volumes, between 2017 and 2018, as for the revisions of the existing regulatory framework and as an anticipation of the European Crowdfunding Service Provider Regime.

The platform which generates more awareness among people is Kickstarter. As of July 2021, 528,975 projects were launched for which the success rate can be identified around 38.92% [326].

1.2.5 Crowdfunding success

Crowdfunding success is achieved when the campaign raises or exceeds its funding target [46]. Recent studies have shown how the crowdfunding projects either succeed by narrow margins or fail by large amounts [386]. Throughout the years multiple metrics have been individualized that can help understanding whether the success was reached or not. Mollick [250] identifies the first of these in the meeting of the target

amount within the project duration. In other words, the raising of at least the amount of money stated as the campaign goal within the time span of the campaign [61], [89]. Even though, it is possible to find other of these metrics in studies where the funding success can be linked to the total amount of capital raised [37], to the total number of backers [89] and to the speed of the investments [4]. The reasons driving the success of the funding can be related to the quality of the project. "Funders act like Venture Capitalists or other traditional sources of capital, and evaluate the quality of the product, the team, and the likelihood of success" [154], [232]. Other factors linked to the success can be identified in the project category, funding goal, and campaign duration. On the contrary crowdfunding success does not have a strong correlation with the geographical distance. Funding is not geographically constrained, even if distance still does play a role. Within a single round of financing, local investors invest relatively early, and they appear less responsive to decisions by other investors [2]. Greenberg et al. [156] show that the existence of images and videos in the project introduction can make a project more profitable than another. In the crowdfunding world, project descriptions can be seen as the traditional business plans in terms of content and function [197]. "The business plan serves as an important indicator of a venture's potential for success" [81]. Nowadays, being the competition for seeking the backer's attention increased enormously [250], the importance of the description of the project itself has gained relevance. That represents the only way through which backers can relate to the project having the first touchpoint. In the literature Parhankangas and Ehrlick [268] have shown how the Business Angel's funding decision is influenced by the language used in the business plan proposal, while Chen et al. [81] make use of the persuasion theory through the unimodel and try to understand up to which point the entrepreneurial passion perceived from the business plan can influence the Venture Capitalist's funding decision. Zhou et al. [386] fund

their study on those previous ones in order to examine the information content of project descriptions tailored to the world of crowdfunding. They analyze how project owners make use of the project descriptions through a persuasion process to obtain funding from the backers. The crowdfunding environment is much different compared to the "classic" investing ones, given that, it is more difficult to spot the quality of a project and it is not even clear whether the quality can have that much of an impact on the funders compared with the more traditional investments [45].

In the end, the determinants of crowdfunding success could be identified into five main elements belonging to a project which could make one to win over another. The first aspect is related to the project content, the broader the range of projects, the greater the success achieved. The spectrum of the project could reach out to the artistic world [142], the technological and design one [34], the personal medical expenses [317], the scientific one [236]. The second feature that could be identified is the target capital. In the literature it was possible to observe how the higher the target set by the project owner, the more negative the impact on the campaign success [61]. But the reasons of the scarce success can also be given by the greater difficulty in getting legitimacy [138] and could also be linked to the fact that setting a higher target, a greater number of crowd-funders will contribute but pledging a lower amount [89]. The other aspects influencing the success could be identified in the duration of the campaign, the rewards guaranteed, and the information disclosed throughout the project.

1.3 Entrepreneurial passion

1.3.1 Passion in time

Passion is a word that has a lot of history behind itself, with writings about its origin and importance dated back even to the Ancient Greek age (e.g., Aristotle's *Rhetoric* [291]); over the years there were moral theologists (e.g., Spinoza's *Ethics* [293]), political scientists (e.g., Machiavelli's *The Prince* [16]), and cultural mythologies (e.g., [254]) writing about the importance of passion.

Most of the literature views passion as any intense emotion that stirs humans with energy and deep longing to make a difference; some interesting and widely accepted notions of passion are given by The Cambridge Dictionary that states passion as "a very powerful feeling, for example of sexual attraction, love, hate, anger, or other emotion" and as "an extreme interest in or wish for doing something, such as a hobby, activity, etc."

Among all the interpretations that can be given to passion, albeit it is often reserved for romance and artistic fields, contrary to what people could normally think, it is prevalent even in the business sector. It is one of the critical factors influencing the allocation of resources decision making process both from a managerial and from a customer point of view.

1.3.2 Passion and Entrepreneurship

Passion is profoundly entrenched in the practice of entrepreneurship and the role of affect has been increasingly studied over the last years. Passion is at the heart of entrepreneurship [72]; passion typically evokes sustained strong feelings towards an activity [354]; it can become a key driver of the entrepreneurial action, especially given

the uncertain success of launching new products and services and the challenges of developing new organizations with limited resources; Brännback et al. (2006) say passion can "fuel motivation, enhance mental activity, and provide meaning to everyday work". Smilor [318] refers to entrepreneurial passion (EP) as the "fire in the belly," that emerges when "one has the freedom and opportunity to pursue one's dream" and advocates that it is one of the most observed traits that describe the entrepreneurial process. Similarly, Timmons [342] argues that "passion" drives entrepreneurs to face the inevitable risk and resource uncertainty associated with new enterprises.

Passion has been found to foster creativity and the recognition of new information patterns critical to the discovery and the exploitation of promising opportunities [20], [333]. In addition, the association between entrepreneurs' ability to raise funds from investors [71], [249], [331] and to hire and motivate key employees [65] has been studied. Bird [43] found that passion increases entrepreneurs' persistence and motivation, internalizes ventures' development as personal events; Shane, Locke and Collins [311] describe passion as a motivational construct that contains an affective dimension which is a key motivator for entrepreneurs. Hence, entrepreneurial passion plays a role in new venture formation and performance [65], [73]. Accordingly, scholars have pressed for a deeper understanding of passion as a central element of entrepreneurial efforts [71], [73].

As written above, past researchers are coherent in recognizing the relevance of passion in entrepreneurship, converging on three main themes: (1) the content of "passion" is an intense positive emotion (2) whose empirical referents or objects usually involve venture-related opportunities, tasks, or activities and (3) that has a motivational effect that stimulates entrepreneurs to overcome obstacles and remain engaged.

1.3.3 Passion as positive intense feeling

Passion has been associated often with love, both in romantic and in non-romantic settings. Social psychologists have treated passion as a motivational construct that contains affective, cognitive, and behavioral components. Csikszentmihalyi [96], for instance, suggests that passion promotes intense, flow-like states of total absorption in one's activities; other scholars argue that passion is activated by emotionally important goals that control and guide desires, thoughts, plans, and behaviors and that persist over time, regardless of costs, external obstacles, and moral objections [137]; lots of studies, instead, rely on the definition of passion proposed by Vallerand and colleagues [356], pointing it out as "a strong inclination toward an activity that people like [affective], that they find important [cognitive], and in which they invest time and energy [behavioral]."; Perttula [273] defines passion for one's work as "a psychological state characterized by intense positive emotional arousal, internal drive and full engagement with personally, meaningful work activities". These couple of definitions suggest that passion helps direct one's attention and actions and that it is a domain-specific motivational construct: this last feature means that one needs to have a target of love for passion, and this target is often a specific activity or a collection of activities that embody certain implicit or explicit values.

In the entrepreneurship literature, passion is often associated to affect, especially positive affect and it is intended to arouse from the encounter of the entrepreneurs with something that relates to a meaningful and salient self-identity for them.

As a matter of fact, some studies associate passion to pride [42]; Baum and Locke [29] and Shane, Locke and Collins [311] call passion as "love" for work; Smilor [318] writes about passion referred to venture–related activities as the "enthusiasm, joy, and even zeal that come from the energetic and uplifting purpose"; it can be intended as love for the venture itself [72]. Moreover, passion is defined as a strong indicator of how

motivated an entrepreneur is in building a venture, whether she/he is likely to continue pursuing goals when confronted with difficulties, how well she/he articulates the vision to current and future employees and whether she/he will be able to influence, persuade and lead people in growing the venture [356]. Again, Philippe et al. [276] define it as "a strong desire to engage in certain activities.".

It's important also to remark the literature about the mechanisms for how passion influences outcomes. Scholars suggest that passion involves strength and courage [42], mobilizes energy [50] and unflags pursuit of challenging goals [318]. Passion has been related to drive, tenacity, willingness to work long hours, courage, high levels of initiative, and persistence in the face of obstacles [42], [43]. Passion thus consists of deeply experienced positive feelings for something important to the entrepreneur and, as a result, is more enduring than the experience of episodic emotions associated with external stimuli. Therefore, Chen et al. [81] comes to define entrepreneurial passion as "an entrepreneur's intense affective state accompanied by cognitive and behavioral manifestations of high personal value", underlining a couple of important consequences: firstly, passionate individuals have such active minds that they are likely to take action to address their passion, therefore Chen et al. [81] labels the affective aspect of the discussed feeling as simply "passion", while the cognitive one is addressed as "preparedness"; secondly, although the passion experience is largely positive [58], it does not exclude negative affective states such as anxiety or fear.

1.3.4 Entrepreneurial passion and Identity

Cardon et al. [73] writes that, in their view, "passion is aroused not because some entrepreneurs are inherently disposed to such feelings but, rather, because they are engaged in something that relates to a meaningful and salient self-identity for them";

Murnieks and Mosakowski [257] also invoke identities, arguing that passion emerges when a broad entrepreneurial role identity is salient; entrepreneurial passion is also generally defined as an intense positive emotion with a meaningful identity connection [272], [355].

Based on a taxonomy of entrepreneurial activities developed by Gartner, Starr and Bhat [144], three role identities are proposed by Cardon et al. [73]: (1) an inventor identity, where the entrepreneur's passion is for activities involved in identifying, inventing, and exploring new opportunities; (2) a founder identity, where the entrepreneur's passion is for activities involved in establishing a venture for commercializing and exploiting opportunities; and (3) a developer identity, where the entrepreneur's passion is for activities related to nurturing, growing, and expanding the venture once it has been created.

Researchers, based mainly on identity theory literature [56], [57], [151] especially focusing on conceptions of identity rooted in the self [330], have defined identity as internalized expectations about those characteristics individuals hold as central, distinctive, and enduring about them and that are at least partially reflected in the roles they enact [57]. Since identities are organized hierarchically such that an identity placed higher in the hierarchy is more salient and more central to self-meaning than those placed lower [330], it is possible that an entrepreneur may be equally passionate about all three of these identities but more often it happens that he has one of the three identities more salient and central than the others. Identities are a source of motivation for actions that result in social validation of self-meaning, role identities put people in social categories and individuals are motivated to maintain and confirm their self-meaning by engaging in activities and interacting with people in ways that confirm the expectations about her/his role and validate the behavioral implications of salient social categories [56], [57], [151]; such engagement in activities arouses positive affect

in accord with affect control theory [57]. Finally, Cardon et al. [73] conceptualize the nature of entrepreneurial passion as "consciously accessible, intense positive feelings experienced by engagement in entrepreneurial activities associated with roles that are meaningful and salient to the self-identity of the entrepreneur". They discuss three main themes in entrepreneurial passion: (1) an intensive positive emotion, (2) targeted toward a venture-related opportunity, and (3) containing a motivational component to overcome obstacles. They also propose a conceptual model that ultimately links entrepreneurial passion to different aspects of entrepreneurial effectiveness including opportunity recognition, venture creation and venture growth. Lu et al. [227] agree on the three dimensions of entrepreneurial passion for inventing, for founding and for developing, complementing that entrepreneurial passion has an important influence on resource acquisition.

1.3.5 Relationships between entrepreneurial passion and related concepts

Baum, Locke, and Smith [30] found that entrepreneurs' traits, including tenacity, proactivity, and passion for work, exerted positive effects on venture growth; Baron and Markman [21], [22] discovered that self-reported expressiveness (one's tendency and ability to express emotions) was positively related to entrepreneurs' business incomes and their companies' sales revenues. Both the studies suggest that perceived expressiveness of an individual's emotion in a social setting is a predictor of financial success of entrepreneurial ventures; in another study, Baron [20] stated that high levels of affect not only made entrepreneurs more persuasive, but also contributed to the breadth of their social networks, which in turn increased their social capital and so, they had a higher probability of achieving success in new ventures.

Persistence and self-efficacy's effects on entrepreneurial passion

Persistence is a key element in entrepreneurship [235], [378], since entrepreneurs who are tenacious in pursuing their goals have a greater chance of success [341]. One of the most researched potential drivers of entrepreneurship is self-efficacy [17]. Self-efficacy refers to task-specific confidence – a person's perception of their own capabilities to attain certain high-performance outcomes [11] – and it is a critical aspect for entrepreneurship [112]. Cardon et al. [66] found that the self-efficacy to persistence relationship is mediated by passion for inventing and for founding but not by passion for developing firms; moreover, the passion of entrepreneurs appears to help explain the relationship between entrepreneurial self-efficacy and sustained entrepreneurial action.

Entrepreneurial passion and personality

Obschonka, Moeller and Goethner [263] found that the domain-specific personality feature (the entrepreneurial trait profile) predicted entrepreneurial passion and passionate entrepreneurial behavior. By contrast, the domain-unspecific single Big Five personality traits [201], [246] had no significant effects. Indeed, research suggests that the entrepreneurial personality profile leads to higher levels of entrepreneurial self-identity [264].

Entrepreneurial passion and communicated vision

Another important key factor within the setting of entrepreneurial activity is the so-called "communicated vision" [29], [340]. Communicated vision refers to both the

content of what is communicated and how the communication takes place, such as with pep talks or formal presentations [340]. Baum and Locke [29] argue that communicated vision is "as important as vision content alone for motivating high venture performance". Cardon [65], in fact, argued that entrepreneurial passion can be directly transferred both to the internal organization and to the external stakeholders by these different modes of communication.

Entrepreneurial passion and entrepreneurial teams

It is known that most new ventures are founded and led by teams rather than individuals [91], [192], [203]; affective diversity within a team can lead to higher levels of task and relational conflict in addition to lower levels of cooperation among team members [27], and identity conflict can be a major problem for entrepreneurial teams [123].

Studies show that team members can differ not only in the extent of passion they feel (its intensity) but also in the object of that passion (its focus), and De Mol et al. [110] found that diversity in the amount of passion team members experience can diminish the quality of the business ideas the team is able to generate in the short-term, while diversity in the focus of team members' passion can diminish the firm's long-term performance.

An important assumption made by different researchers is related to the fact that the intense positive feeling experienced by engagement in entrepreneurial activities is contagious [107], [222], [249]. Starting from the emotional contagion theory [26], [169], [170] and meaning contagion as "a process in which a person or group influences the emotions or behavior of another person or group through the conscious or

unconscious induction of emotion states and behavioral attitudes" [301], entrepreneurial passion has been theorized to be likely recognizable by others [169].

In line with research on contagion effects on different organizational levels [336], Hubner, Baum and Frese [185] discovered that entrepreneurs' passion seems to be not only capable of enhancing emotion-related outcomes, as suggested previously [51], but also enhancing performance-relevant employee outcomes.

Furthermore, Hubner, Baum and Frese's [185] results suggest that not only can entrepreneurs experience entrepreneurial passion but there may also be a passion response in employees; even though employees have not founded the firm, they can be involved in the entrepreneurial activities. This idea is supported by the literature on corporate entrepreneurship and intrapreneurship [84], [230], [252].

Entrepreneurial passion and entrepreneurial intentions

Entrepreneurs and entrepreneurial intentions continue to be widely studied by researchers with an interest in the personality and individual differences of current and potential entrepreneurs (e.g., [49], [140], [242], [353]). Entrepreneurial intentions refer to an individual's intentions to participate in activities that lead to the emergence of a new venture. Researchers suggest that entrepreneurial intentions might be one of the best predictors of the planned behavior of starting a new venture and that generally intentions vary across individuals and can be learned [5], [125], [126], [208]. Individual difference variables, like passion and innovativeness, have been found to have a positive relationship with entrepreneurial behavior like venture creation, which includes entrepreneurial intentions and venture success [286]. Entrepreneurs are thought to be passionate, and passion is thought to benefit an entrepreneur's effectiveness in creating ventures and in helping their ventures in succeeding [73],

[253]. Innovativeness, of which creativity is a core part, can be thought of as an ability to create or adopt, and implement, value-enhancing ideas [23], [307]. Curiosity, considered to be one of the core motives that influence human behavior [224], can be defined as "the recognition, pursuit, and intense desire to explore novel, challenging, and uncertain events" [193]. Syed, Butler et al. [334] have shown that innovativeness partially mediated the entrepreneurial passion to entrepreneurial intentions' relationship and, further, the mediating effect was stronger for individuals who scored high on curiosity than for individuals who scored low.

The entrepreneurial passion emergence: perceived emotional support and competences

Among many findings, Cardon et al. [73] underlined three important focus areas for research in entrepreneurial passion: first, the need for clearly distinguishing between the experience of actual passion and other episodic positive emotions; second, they suggested to move away from trait-based explanations of why passion influences the behavior of entrepreneurs differently; third, they proposed that passion is not necessarily stable over time but may change during the entrepreneurial process. In attempts to investigate "who" possesses passion, researchers analyzed how entrepreneurial passion depends on identity and entrepreneurship type [339], [379] and how passion is derived from individuals' competences [101], [338].

Stenholm and Nielsen study [328] provides important takeaways about entrepreneurial passion emergence. They show that the alignment of competences with career options is necessary for competences to translate into career passion, since without such alignment, career-related passion is less likely to develop. Moreover, they find that the perceived emotional attachments matter also among nascent

entrepreneurs and not solely among established business owners as previous research show [67], [72]; again, Stenholm and Nielsen [328] reveal that financial support has an impact not only through its economic function (e.g., [31], [343]), but also through the perceived emotional support attached to receiving it.

In conclusion, entrepreneurs with task-related experience are better able to perceive the emotional support and transform it into entrepreneurial passion [47], [136], [187].

Entrepreneurial passion effects on psychology and entrepreneurial behavior

In recent years, the development of positive psychology has attracted the attention of many scholars, and passion, as an important theory of positive psychology, has a profound impact on people's psychological and behavioral activities [329]. Currently, researchers have used passion theory to explain entrepreneurial behavior. Entrepreneurial passion is a core trait that entrepreneurs must possess, which can encourage entrepreneurs to conduct entrepreneurial behaviors. When entrepreneurs face difficulties, entrepreneurial passion can be used as a support force to keep them going [93], [251]. By persisting in entrepreneurial behavior, relentlessly pursuing established goals, and investing a lot of time and energy, entrepreneurs can achieve successful entrepreneurship and obtain economic benefits [247]. Feng and Chen [127] demonstrated that entrepreneurial passion can positively guide the entrepreneurial persistence of entrepreneurs, and at the same time promote the performance of enterprises by stimulating the positive emotions of entrepreneurs; in addition, they found that entrepreneurs can enhance their entrepreneurial role identity, maintain a positive attitude, stimulate creativity, and innovation, to enhance their sense of energy efficiency. Eventually, the government can also promote successful business cases to

build an inclusive and innovative social environment and stimulate the entrepreneurial passion of entrepreneurs.

1.3.6 Uni e dual model

Among the literature, researchers have adopted mainly two different models to explain the information processing theory of entrepreneurial passion: the unimodel of persuasion [209], [212] adopted by Chen, Yao and Kotha [81] and the Vallerand's et al. [356] dualistic model.

Starting from the second, the central tenet of this model is that passion has the effect of a double-edged sword, such that some people intrinsically enjoy activities and have autonomy in deciding whether to engage in these activities, while others are enforced to continue the activities due to external regulations. The concepts of harmonious and obsessive passions refer respectively to an autonomous internalization that motivates individuals to engage in a preferable activity and to an enforced internalization that leads individuals to engage in a preferable activity with external pressure (Figure 1.2).

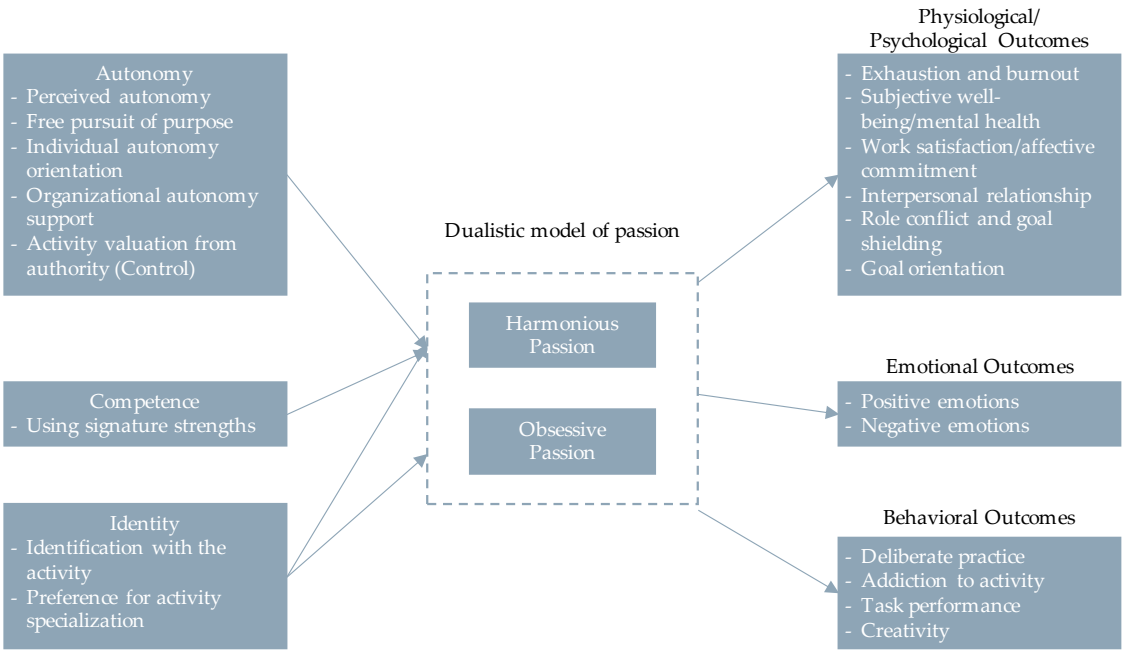

Figure 1.2: Dual model of passion

Some of the main findings about this model come from Ho and Pollack [176], who discovered that harmoniously passionate entrepreneurs had higher out-degree centrality in their networking group, which increased the income they received from peer referrals and, ultimately, business income; on the other hand, obsessively passionate entrepreneurs had lower in-degree centrality and in turn received less income from referrals and less business income. This highlights that entrepreneurial passion does not always result in positive financial outcomes – the type of passion makes a difference. Lastly, entrepreneurial passion is most directly related to the notion of harmonious passion, and this type of passion has often been associated with entrepreneurial success [132].

As far as it concerns the unimodel of passion, the reference is to the paper of Chen, Yao and Kotha [81] definition. The basis of the process is the unimodel of persuasion [209], [212] from social psychology which has received great recognition over the years

in the literature (e.g., [119], [210], [211], [279]). It does not rely on the assumption of two qualitatively different routes to information processing, but on the contrary, its assumption is that the processing of issue-relevant information (the content of a message) and issue-irrelevant information (cues other than the message itself) share the same route and that there is only a quantitative difference between processing these two types of information [211], [278]. This model asserts that both motivation and cognitive ability come into play to determine how the receiver processes information, therefore the persuasion outcome is determined by what the receiver believes to be the basis for their judgement and by what qualifies as relevant evidence for consideration. The main characteristic of the unimodel is that it disregards the qualitative differences in the information received.

1.3.7 Entrepreneurial Emotions

Passion must be evaluated also from a more general perspective in the emotions' field. Entrepreneurial emotion refers to the affect, emotions, moods and/or feelings – of individuals or a collective - that are antecedent to, concurrent with, and/or a consequence of the entrepreneurial process, meaning the recognition/creation, evaluation, reformulation and/or the exploitation of a possible opportunity [67]. Emotions may shape evaluations because they influence how individuals process information [33], [188], [231], [262]. The impact of emotions is said to be more significant in circumstances characterized by high uncertainty and high engagement. In these circumstances, individuals may use feelings as cues on preferred courses of actions [20], [134]. Cardon et al. [67] give two relevant contributions: first, they demonstrate that emotions do affect opportunity evaluations; then, they suggest that emotions of similar valence influence risk perceptions and risk preferences. Research

has investigated how other emotion-related concepts influenced entrepreneurial motivations; among these concepts it is possible to find passion defined in emotion-related terms as it "gives individuals a sense of pleasure and promise and engages them wholeheartedly with what they love" [73]; Rockwell [294] conceives passion as an energy that gives individuals a sense of "pleasure and promise"; besides, as a feeling, passion involves consciously experienced changes in core affect (i.e., internal affective state) that are attributed to external stimuli and that are effortfully reflected upon and stored cognitively for later retrieval [103], [304].

It is known that entrepreneurs who are passionate about their ventures may be more likely to succeed in their venturing efforts, as these efforts require emotional energy, drive, and spirit [43]; Breugst et al. [51] explored how passion of a lead entrepreneur can impact commitment of the employees; the findings are that the same emotion (i.e., passion in this case) for different objects can have differential effects, since perceptions of entrepreneurs' passion for inventing and developing enhances employee commitment, while perceptions for entrepreneurs' passion for founding reduces employee commitment.

It is important to take in consideration not only how emotion influences entrepreneurship but also how entrepreneurship influences emotions themselves: for instance, entrepreneurial behaviors such as developing new products or building new business networks are introduced as a mean for inducing positive affect [194]; then, a study conducted by Gielnik and Frese [148] suggests that entrepreneurial action leads to passion, rather than passion leading to action [73]; eventually, Shepherd and Cardon [313] suggest that failing entrepreneurs procrastinate the closing of their businesses because they want to minimize their overall negative emotions that are triggered by the closing of their businesses; thus, actively managing their grief process through deliberate actions.

1.4 Entrepreneurial passion in fundraising

1.4.1 Professional investors

Raising capital is one of the biggest challenges entrepreneurs must face; fortunately, they have more options for getting the funding they need. Since there is the distinction between raising funds targeting professional investors (Angel Investors, Venture Capitalists) and targeting the general public (crowdfunding), it is deemed to observe a different effect of passion in the two cases.

Entrepreneurs need financial resources to grow their ventures, and often such resources come from outside investors; indeed, Venture Capital and Angel Investors are two important sources for entrepreneurs to seek funding [166], [240], [358]. Entrepreneurs of fast growth firms who anticipate quick and aggressive growth increasingly often turn to AIs and VCs for financing. Venture Capital funds generally provide later stage funding for new firms to obtain short-term financial returns for fund investors. Instead, Angel Investors are commonly wealthy individuals who have personal funds to provide earlier stage funding to obtain financial and non-financial returns [186]. In many cases, the funding proposals will be staged sequentially such that the entrepreneurs will first seek capital from Angel Investors and then seek capital from Venture Capital funds to fill the 'equity gap' [167]. As more angels professionalize into angel funds and as markets for technologies and ideas become more competitive, however, it is becoming more common to find Venture Capitalists and Angel Investors cooperating via referrals or co-investment at both the early and later stages of new ventures as another form of 'complementarities' [166].

According to Statista, the number of active Business Angels in the European market referring to early-stage investments has grown steadily between 2011 and 2019: in 2019 it has been counted a total of 345,000 active Angel Investors. In US instead, it is

estimated that around 300,000 people have invested in startups as a BA in the last two years [327]. However, according to the ACA (Angel Capital Association), the potential Angel Investors' number is 4 million, based on the average net worth of US investors [8]. Just to give some hints on the relevance of the investments, more than 90% of European early-stage investments came from Angel Investors' capital in 2019. The size of the visible angel investment market is more than 10 billion euros in Europe and more than $26 billion in the US and Canada [59]. As far as it regards the VCs funding, it has been grown over the years reaching more than 11,000 US venture-backed company today and accounting for more than $156 billion collected in funding; nowadays, VCs aim at fueling innovative companies developing life-changing products and services across sectors, focusing more on the software and healthcare ones [260].

Investment decision criteria

Starting from a more general standpoint, studies on venture investment decisions found that those decisions often result from multiple, lengthy evaluations based on several criteria (e.g., [163], [312]). More recent literature has applied cognitive psychology (e.g., [349]) to explore how heuristics influence venture investment evaluations. Researchers have found that investor attributes such as overconfidence [382], similar training and work experience with venture team members [135], and personal relationships with venture teams [109] influence investment evaluations and decisions. The process of evaluating venture investment opportunities is complex and iterative (e.g., [163], [274]) and investors, typically, evaluate multiple opportunities over a short period of time, allocating limited investment resources to a few selected ventures [381], [382].

Business Angels

Besides, prior research, specifically focused on angel investing, have noted other criteria that are potentially important in securing investments [239], [244]. These criteria include financial, objective and verifiable factors [240], human capital factors of the entrepreneur or angels [88], [240], relevant experience and ability of the management team and angels [168], [237], [238], [358] and subjective personality characteristics of the entrepreneur, like enthusiasm of the entrepreneur, trustworthiness, exit route, revenue potential, domain expertise of the entrepreneur, growth potential of the market, and barriers for entry [38], [86], [162], [234], [256], [331], [351], [357].

Venture Capitalists

Concerning the Venture Capitalists decision making process, studies on VC funding decisions have suggested that the venture idea or opportunity, the market, the management team, and the entrepreneur making the pitch are among the variety of criteria VCs use in making their funding decisions [163], [292], [352]. The series of in-depth interviews with VCs conducted by Hisrich and Jankowicz [175] revealed that VCs rely often on their "gut feelings" when investing in new ventures. Riquelme and Watson [289] discovered that the factors driving this "gut feeling" include the personality and background of the entrepreneur proposing a venture, the characteristics of the management team, and the "interpersonal chemistry" between the entrepreneurs and the VCs. All these factors point to the "person" aspect of the proposed venture, indicating that also VCs base their funding decisions in part on the technical, personal, and interpersonal capabilities of the entrepreneur proposing a new

venture. Given that, it is clear how the literature underlines that VCs hold implicit mental models or theories about the types of factors that have an impact on the success of a venture and hence on that of the investment. As Shepherd and Zacharakis [315] suggested, in ambiguous and uncertain environments, where the claims made by an entrepreneur are difficult to verify, VCs' subjective evaluation of the entrepreneur's personal qualities, such as his or her passion, is psychologically functional because it often boosts the VCs' confidence in their evaluation of the business plan.

1.4.2 Entrepreneurial Passion and Professional Investors

As introduced above, the investing decision-making process is not only made by objective and verifiable factors; subjective criteria play a relevant role in the process too. In particular, the authors try to investigate that field before considering in deep passion. It is possible to observe that a set of studies taking an investment firm's portfolio as a unit of analysis found that investment firm characteristics such as experience, expertise, and stage-focus influence the composition of investment portfolios [114], [159], [164]. A firm's investment portfolio, however, is the result of complex social interactions whereby multiple actors make collective decisions over a long period of time (e.g., [271]). A crucial milestone linking emotions and investment portfolio is the research conducted by Chan and Park [79] who showed that positive affectivity leads to a more concentrated investment portfolio, whereas negative affectivity leads to a more diversified investment portfolio; moreover, they found that investors who rely on analytical decision-making display a weaker relationship between negative affectivity and investment diversification whereas investors who rely on emotion-based decision-making display a stronger relationship between positive affectivity and investment concentration.

VCs and AIs investments are both oriented to the early-stage of a startup lifecycle; since early-stage investments typically involve unproven technologies, unfinished products and services, as well as unverified market demand [258], it is clear from the extensive literature stream on this subject that while objective factors matter to investors so do subjective factors [243]. Further, the subjective factors often must be assessed by investors during short periods of time, such as during the entrepreneur's pitch to a group of investors [102], [238], [244]. Therefore, one of the greatest challenges nascent entrepreneurs face is that of presenting their ventures in a favorable light and developing an engaging and compelling account—one which investors will willingly buy into [25], [87], [226], [265]. Given that investors' impressions of a new venture therefore might be based on the subjective and non-verifiable claims made by the entrepreneur [244], before more reliable reputation- or market-related information comes into existence [118], attempts to successfully manage investors' impressions are likely to impose conflicting pressures on nascent entrepreneurs as they seek external funding. On the one hand, entrepreneurs know that investors will consider the market growth potential, product quality, innovativeness, and expertise of the entrepreneurial team when making their investment decision [233], [240], [332]. An entrepreneur therefore may feel tempted to resort to excessive organizational promotion, for instance, by overstating his or her expectations of the future performance of the firm, the distinctiveness of its business model, the speed of product development, or the competence of the entrepreneurial team. Being either too modest or revealing of one's weaknesses may leave the entrepreneur without much-needed capital. On the other hand, many entrepreneurs intuitively know that it is better to exceed expectations than to fail to deliver, as failure to deliver may lead to a strained relationship with the investor and failure to secure a new round of financing [63], [171], [243]. In a similar vein, blasting the rivals may initially help entrepreneurs set themselves apart from the

competition and increase their chances of raising funding [19], [143], [226]. However, taken too far, blasting may turn against its users, making them look less likable [225], [287] — and thus less fundable — in the eyes of the potential investor.

Entrepreneurial passion and Venture Capitalists

Chen et al. [81] view the making of VCs' funding decisions as "a persuasion process, whereby entrepreneurs convince VCs of the merits of the entrepreneurs' proposed ventures". Through the unimodel of persuasion, it is said that in the VC decision context whether passion and/or preparedness are considered relevant will depend on a VC's implicit mental model about these two pieces of information. On the one hand, if a VC does not have the passion venture success relationship in mind, information about how passionate an entrepreneur is will be irrelevant to the investment funding decision. On the other hand, if a VC strongly believes that the display of passion is crucial for the entrepreneur to be successful, then passion becomes highly relevant in the VC's decision making about funding.

Defining passionate entrepreneurs as those who show strong and positive emotions toward their projects, who cannot stop thinking and talking about their ideas, and who are busy mobilizing resources to turn their ideas into reality, Chen et al. [81] developed a perceived passion and preparedness scale through a two-factor model of 11 items (statements), checking its validity performing a confirmatory factor analysis (CFA). Then, they conducted a laboratory experiment and a field study, which results support the conceptualization that, in the context of business plan presentations, the passion construct has two distinct but related components: passion and preparedness. Passion is manifested through facial expressions, body movement, tone of voice, and other nonverbal cues, whereas preparedness is manifested in the verbal content and

substance of a presentation. According to the unimodel of persuasion, the study found that preparedness information is more relevant than the information on passion in a VC's mind; this means that if an entrepreneur shows affective passion, yet her or his business plan lacks substance, it is as if the ingratiation is fake and manipulative, and thus unlikely to generate a positive effect. Several studies conducted by Ferris, Treadway, and colleagues (e.g., [129], [345]) have demonstrated the importance of "sincerity" as a necessary component of successful political skills.

Entrepreneurial passion and Business Angels

As just seen, Chen, Yao, and Kotha [81] argue that "passion is often critical to convince the targeted individuals to invest their money, time, and effort in the new venture." While some scholars have focused on passion as experienced by entrepreneurs (e.g., [72], [73]), others suggest that displayed passion is perhaps just as important (e.g., [65]). This is because some people display emotions they do not feel (e.g., [104], [285]), and some are less expressive in displaying felt emotions (e.g., [205]). Cardon, Sudek and Mitteness [71] use the term "displayed passion" to refer to the emotion that is expressed or displayed by the entrepreneur. Entrepreneurs may be more persuasive when they demonstrate high levels of positive emotion [20], may appear more confident, and may receive more favorable decisions from investors [81]. When entrepreneurs display passion, such as through providing animated venture pitches or presentations, potential investors make assessments concerning the level of perceived passion, or the amount of passion they perceive the entrepreneur to have. This is distinct from displayed passion, because the emotion an entrepreneur is trying to communicate through their display may not be perceived by the investor, or the investor may perceive that the displayed emotion is not genuine and thus, will not

perceive the entrepreneur to have passion. Cardon, Sudek and Mitteness [71] use the term "perceived passion" to refer to the extent to which others perceive the entrepreneur to be passionate about their venture. Scholars suggest that both BAs and VCs rate perceived passion as an important investment criterion (e.g., [75], [234]), however BAs may view perceived passion as even more important than VCs [75], [331], [357] due to their investments typically occurring at earlier stages of a company's life.

The results from Cardon et al.'s [71] analysis show that the importance of different types of displayed passion varies depending on the stage of the funding process examined, and that all three types of displayed passion (enthusiasm, preparedness and commitment) have a relationship with perceived passion and evaluations of funding potential, although the nature of these relationships is complex. Main findings are that: (1) displayed enthusiasm and displayed commitment appear to lead to more perceived passion as assessed by Angel Investors; (2) it appears that both displayed enthusiasm and displayed commitment have aspects that lead to increased perceptions of passion and also interest at the screening stage, but also have aspects that lead to decreased interest at the screening stage; (3) perceived passion only had a mediating effect when predicting interest at the screening stage of the funding process and not at the investment stage of the funding process, suggesting that displayed enthusiasm and displayed commitment will only get you so far in the funding process; (4) in the weeks or months between the presentation and the investment decision, the passion the entrepreneur was able to convey to the BAs, as well as the BAs' recollection of displayed passion likely diminishes. However, displayed preparedness (cognitive passion) does not seem to diminish over time; (5) although not directly related to either perceived passion or interest at the screening stage, displayed preparedness is positively associated with investment at the funding stage; (6) displayed preparedness

may have a more lasting impact than the other two types of displayed passion. This result is consistent with the findings of Chen Yao, and Kotha [81] who found that in evaluations of business plan presentations raters also focused more on preparedness than on affective passion of the presenters.

Other studies have studied the impact of passion in angel investing decisions. Mitteness, Cardon and Sudek [249] explored the conditions under which perceived passion is likely to play a significant role in the funding decision process: they established a relationship between perceived passion and evaluations of funding potential, whose results indicate that the relationship is stronger for Angel Investors who are older, more intuitive, have a higher openness personality, or those who are motivated to mentor. Moreover, the relationship weakens for Business Angels who are extraverted and those who have a promotion-dominated regulatory focus.

Parhankangas and Ehrlich [268] developed and tested a set of hypotheses concerning how impression management strategies deployed by entrepreneurs affect their likelihood to secure funding. The results suggest that Business Angels prefer investment proposals characterized by the moderate use of positive language, moderate levels of promotion of innovation, supplication and blasting of competition, and high levels of opinion conformity. They suggest it seems that the impressions created by entrepreneurs' choice of words in their one-page are relatively durable, carrying through to the actual investment decision, even though their impact is greatest in earning the entrepreneur an invitation to present to the angel group. Hence, the entrepreneurs should seek a balance between boldness and caution when attempting to secure Business Angel funding. On the one hand, they should not hesitate to signal some degree of confidence in their ventures, whereas on the other hand excessive organizational promotion or blasting of their competition introduces the risk that potential investors perceive them as dishonest, opportunistic, or simply

misinformed or unrealistic about the actual risks their ventures face. In a similar vein, by revealing some of their weaknesses, entrepreneurs may increase their trustworthiness in the eyes of potential investors and thus increase their likelihood of securing Business Angel funding. It is found that Business Angels might perceive entrepreneurs who overemphasize the uniqueness of their venture as lacking sufficient awareness of the environment in which they will compete.

Murnieks et al. [255] discovered that Business Angels value passion in addition to tenacity, as well as both together, when evaluating entrepreneurs for investment and that the entrepreneurial experience of BAs positively moderates the value provided by passion and tenacity.

Cardon et al. [70] main study results are aligned with the ones of Chen et al. [81]. They found a positive effect of preparedness on BAs' evaluations, an effect enhanced by one form of commitment. The relationship between enthusiasm and evaluations of funding potential varies depending on the type of commitment considered: when entrepreneurs, for instance, have invested a lot of personal money in their ventures there is a positive relationship between preparedness and BA evaluations of funding potential; however, when entrepreneurs have invested a low amount of personal funds in their ventures the relationship between preparedness and BAs' evaluations is flat.

Moreover, the relationship between enthusiasm and evaluations of funding potential was strongly negative when entrepreneurs had invested a lot of their personal money, spent a lot of time pursuing their venture, and did not use money efficiently.

In conclusion, they suggest that enthusiasm, preparedness, and commitment should be treated as conceptually and empirically distinct.

Entrepreneurial passion investigation in VCs and BAs

Some studies have instead focused on both Angel Investors and Venture Capitalists. Pollack et al. [282] suggest that the relationship between entrepreneurs' preparedness behavior and the amount of funding received is mediated by cognitive legitimacy (it refers to the "knowledge about the new activity and what is needed to succeed in an industry"). Specifically, entrepreneurs' increased preparedness behavior was found positively related to increased cognitive legitimacy. Cognitive legitimacy, in turn, was positively related to amount of funding received.

Hsu et al. [184] found that strategic readiness for funding and affective passion matter more to Angel Investors, while economic potential matters more to Venture Capitalists. They also found that both investor types place similar weights on the specific human capital of entrepreneurs. These findings support the agency view that differences in the investment decision policies of Angel Investors and Venture Capitalists can be explained by examining the agency costs, market risks, information asymmetry, and control mechanisms that are structured into angel and venture capital deals.

Warnick et al. [371] demonstrated that the passion for entrepreneurship and the passion for the product become more appealing when the investor perceives that the entrepreneur is highly open and receptive to feedback, suggesting that openness to feedback mitigates potential concerns associated with passion in its extremes. They further find that venture investors differ in their consideration of passion; Angel Investors and Venture Capitalists with more investing experience place greater emphasis on the combination of product passion and openness to feedback, whereas those with more entrepreneurial experience emphasize the combination of entrepreneurial passion and openness to feedback.

1.4.3 Entrepreneurial passion in crowdfunding

As mentioned before, crowdfunding shows some distinguishing characteristics, when compared to Venture Capital and Business Angels' ways of financing, which may be identified in the different due diligence process, the lower financing amounts, the shorter financing duration. Moreover, crowd-funders are usually supporting projects with a relatively low financial contribution, the investment made does not represent their main source of income and this might bring them to focus their interest on other matters rather than diving deeper in the project details. Also, given the nature of the crowd-funders, they may lack the right knowledge and expertise to evaluate the potential of a new venture. Li, Chen, Kotha and Fisher [222] sustain how these reasons may lead to an evaluation of the crowd-funders mainly based on simple cues such as the entrepreneurs' displayed passion, observable through pitching videos and of great importance in determining the success of the enterprise [73]. Displayed passion plays an essential role when the product or environment is ambiguous and uncertain [382], high levels of displayed passion could help the entrepreneurs expand their social networks and be more persuasive [20], displayed passion could lead to emotional contagion so that people around get caught up in the excitement shown by the entrepreneur [65]. The study of Li, Chen, Kotha and Fisher [222] represents the first one that explicitly examines the impact of displayed entrepreneurial passion in the crowdfunding world. They argue how the entrepreneurial passion revealed in the introductory video will be able to influence the decision-making process of potential funders through a process called passion contagion. Their view of the introductory video is that of a "pitch" seen as a persuasion effort that entrepreneurs employ to seek the attention of new potential resources' providers. Furthermore, they refer to the elaboration likelihood model of persuasion theory (ELM) by sustaining that as potential backers are influenced by peripheral cues, the experienced enthusiasm serves

as a critical cue and influences their support for a product idea. ELM [275] provides a model for getting a deeper knowledge of how the entrepreneurs' use of narratives might generate changes in the potential funders' evaluation. According to this theory, two routes may influence the process of evaluation of funders. These routes may be identified in the central and the peripheral ones. The central one is defined as the process by which people evaluate information through critical thoughts. The peripheral one instead, through which the evaluation is made by looking to less critical aspects, is defined by considering the setting of the message transmitted. Since potential crowd-funders see a great variety of projects on the crowdfunding platforms, they tend to make rapid decisions about whether to get a deeper knowledge on the projects' details or move on examining another project. It is in these occasions that they tend to make rapid, automatic, effortless and associative decisions and are more influenced on the content, which is affective, concrete, and prototypical [122]. Even though, if it is true that potential backers pay a lot of attention to peripheral cues, they still are concerned about product innovativeness. In addition to what was mentioned before, they argue that displayed passion not only determines the success of the campaign, but it also plays a determinant role in substantially increasing the funding amount given to crowdfunding projects, followed by a wide array of other projects characteristics among which there is innovativeness. Cardon et al. [68] have identified six different types of passion: passion for growth, passion for people, passion for the product or service, passion for investing, passion for competition and passion for a social mission. Recent studies have shown how all the six types of identified passions are important in defining crowdfunding success. Even though, it is possible to notice similarities in the entrepreneurs and the investors in showing a greater interest in passion for the product/service or passion for people. The passion for the product or service defined by Cardon et al. [68] sees the entrepreneur being as the keeper of

overwhelming love for some product or service they have, and they want to share with the others. Instead, passion for people is defined as the excitement lived by the entrepreneurs in interacting with a group of people. Entrepreneurs are "passionate about working with family, satisfying customers, and building meaningful relationships with employees, vendors or affiliates" [68]. Apart from this, the remaining four types of passions are considered as equally important by the entrepreneurs, while on the investor side, each of the remaining types has a different strength and type of influence. By looking at reward-based crowdfunding, it is now clear how this is characterized by developing products that could be either unfinished or unproven. These elements usually drive the investors towards the analysis of perception-based elements of the pitch such as passion or creativity. And new products especially are distinguished by a high level of creativity, which is found to be the element that strongly differentiates successful new products from failures [92]. Creativity is considered fundamental to entrepreneurship [302], [369], that is why creative products can generate positive reactions in those who view them. It is worth mentioning that the extent to which creative products can create an affect-inducing reaction in the funders of a project, is also influenced by the way in which the entrepreneur delivers the pitch. What often occurs, is that the funder is not able to distinguish the affective reactions they have to the sight of a new product pitches from the reactions generated from seeing the product from the first time [85]. In the past Chen et al. [81] and Baron et al. [24] have considered that the funders' judgements and affective reactions are independently influenced by their perceptions of the entrepreneurs. Davis et al. [107], focus their attention on two main aspects: how the founders' perceptions of a product's creativity might somehow influence their funding decisions by generating positive affective reactions and how the affective reactions to creativity generated in the funders are affected by the way in which the entrepreneur

delivers the pitch. As crowdfunding is characterized by a lack of economic incentives for most people deciding to fund the projects, the role played by creative products and personal emotions is massive since they evoke positive affective reactions and draw out the support from the potential funders. To this purpose, affective events theory (AET) suggests that affective reactions may directly result in emotion-driven behaviors, which could lead in the end to biased decision-making [373]. The following figure (Figure 1.3) represents the mechanism driving funders' decisions when listening to entrepreneurs' crowdfunding pitches. Here the level of product creativity demonstrated during the entrepreneurs' pitches is argued to generate positive affective reactions which in the end drive the decisions of the funders. The product creativity is here considered as the independent variable, moreover, it is hypothesized that perceived entrepreneurial passion will have a role in determining how much the perceived product creativity will generate positive affective reactions in the funders. This concept may be summarized by saying that if entrepreneurs' passion may increase positive affective reactions among potential funders due to emotional contagion, the funders would experience an even higher positive affective reaction if creative products are pitched by more passionate entrepreneurs.

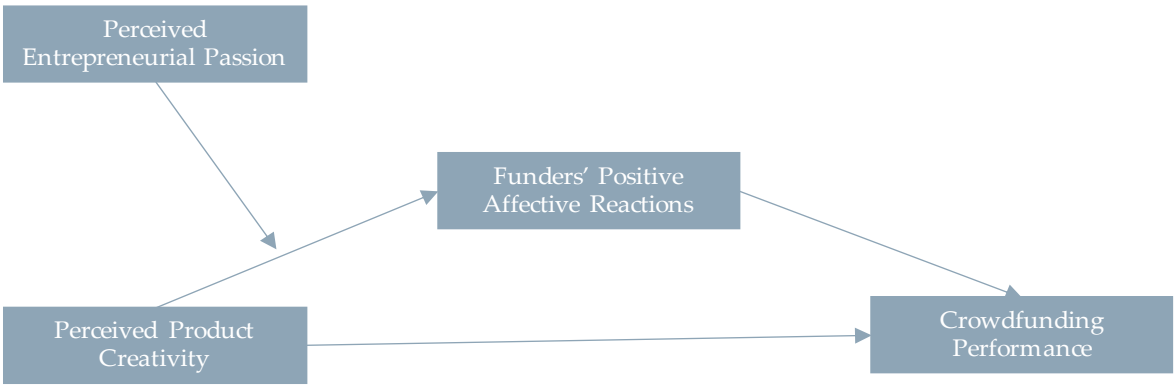

Figure 1.3: The effect of perceived entrepreneurial passion

Allison et al. [7] examined the persuasive influence in crowdfunding by referring to the elaboration likelihood model of persuasion (ELM) that as mentioned before is built upon the identification of two distinguished routes. The extent to which the evaluating process of funders might be influenced more by either one of the routes, depends on the position they stand to in the elaboration likelihood continuum which can be referred to as the process in which the individuals add something of their own in the evaluation process rather than just looking at the content [284]. Through the study Allison et al. [7] found that the crowdfunding performance is enhanced by the presence of peripheral cues which might be identified in the form of depicting the venture as a personal dream, supporting group identity and using a positive narrative tone. Moreover, what they discovered is that the level of motivation and ability of the funders determine whether issue relevant information or peripheral cues will have a greater importance in the final funding decision. As concerns entrepreneurs seeking for funds in the crowdfunding world, their study was of great importance in suggesting them how campaigns seeking for smaller amounts could usually rely more on peripheral cues as a mean of persuasion while when seeking greater amounts, funders may give greater importance to the ability of the entrepreneurs of presenting

their projects by relying on issue-relevant information. Thus, in the latter case, preparedness plays a higher contribution to the success of the campaign.

It could be possible to summarize the studies made on the role of entrepreneurial passion in the crowdfunding environment by looking at the following table (Table 1.1).

Authors	Platform	Passion definition	Method	Main results
C.S. Richard Chan, Annaleena Parhankangas (2017)	Kickstarter	Passion as control variable to test innovativeness effect	MTurk participants in the survey	Crowdfunding campaigns characterized by greater incremental innovativeness are more comprehensible and generate more user value for typical crowdfunders
Davis, Hmieleski, Webb, Coombs (2017)	Kickstarter	Entrepreneurial passion mediating role on funders' positive affect enhanced by product creativity	Survey + controlled access computer lab experiment	Perceived product creativity effect is positively related to crowdfunding performance and it is positively influenced by the perceive entreprenurial passion
Li, CHen, Kotha, Fisher (2017)	Indiegogo, Kickstarter	Chen Definition	Indiegogo sample + 170 undergraduate business students review;	Displayed passion fosters passion contagion, social-media exposure and funding amount
Tenca Francesca (2017)	Kickstarter	Chen Definition	Kickstarter sample	Affective passion and preparedness increase the likelihood of success; entrepreneurial passion is stronger in a context of low ambiguity and preparedness is stronger when the language is less complex
Thomas H. Allison, Blakley C. Davis, Justin W. Webb, Jeremy C. Short (2017)	Kickstarter	Passion as peripheral cue transmitted to the funders	MTurk participants in the survey	Peripheral cues have their strongest influence among unexperienced funders
Aaron H. Anglin, Jeremy C. Short, Will Drover, Regan M. Stevenson, Aaron F. McKenny, Thomas H. Allison (2018)	Kickstarter	Entrepreneurial passion and the positive psychological capital	Kickstarter sample and primary + post hoc analysis	Entrepreneurs conveying positive psychological capital experience superior fundraising performance
Pyayt P. Oo, Thomas H. Allison, Arvin Sahaym, Sakdipon Juasriku (2019)	Kickstarter	Perceived entrepreneurial passion by Cardon (2009b)	Field study on Kickstarter sample	User entrepreneurs are more passionate about their ventures and can marshal social support through similarity with potential supporters

Table 1.1: Reward-based main authors and findings

2. Chapter two: Research questions

2.1 Theoretical questions

2.1.1 The Importance of Displayed Passion and Preparedness in Crowdfunding

The starting point of this research theoretical framework is the substantial difference between obtaining funds from crowdfunding and obtaining funds from professional investors: "Crowdfunding is, as its name indicates, funding from the crowd raising small amounts of money from a large number of investors. Unlike typical business financing, which comes primarily from wealthy individuals and institutional investors, crowdfunding raises money from the general public." [48]. The uniqueness of crowdfunding is that it allows anyone to raise funds from the public and anyone to become an investor by spending small amounts of money: this funding opportunity is extremely appealing for both fundraisers and backers such that it has become in a few years a valid financing option to gather seed capital or to raise funds in the early start-up phase up to the expansion phase.

Crowdfunding is stated to be a feasible option to raise funds specifically for small entrepreneurial ventures or project-based initiatives: due to their small size and lack of information, professional investors require lot of information in order to assess the risk before making an investment decision. Schwienbacher and Larralde [305] and Kleemann et al. [200] state that "traditional financing methods like bank loans, BAs or VCs are out of reach for these small companies. Moreover, bootstrapping does not allow businesses to grow fast". They also point out that a lack of existing financial resources is an important factor for an entrepreneur when deciding to make use of

Crowdfunding, as well as spreading the risk over different people instead of bearing the whole risk alone.

Moreover, Schwienbacher and Larralde [305] affirm that fundraisers investments are more motivated by personal interests in the project/product rather than in the financial returns: hence, it can be assumed that differently from professional investors funding entrepreneurial passion can be one important factor to attract resources and, accordingly, that an entrepreneur can more likely enthuse an investor with his passion to support her/his project.

However, it is shown that crowd-funders and VCs or BAs share a high uncertainty brought by "liability to newness" and information asymmetry [359]. Attempting to help entrepreneurs addressing this consideration, researchers recommend engaging in behaviors during their business pitches displaying passion and preparedness, at least when dealing with more traditional funding sources (e.g., [73], [81], [253]).

Lu [227] has found three reasons to advocate that this input could not be applied so easily to entrepreneurs on crowdfunding platforms:

- *Firstly*, the effectiveness of a pitch concerns not only the entrepreneur and the message, but also the message receiver, i.e., the investor [275]; future research on entrepreneurial passion should consider also the interaction between business pitches and investors' characteristics [249].
- *Secondly*, since the backers are largely unsophisticated investors, entrepreneurs must be cautious about disclosing their content in technical detail;
- *Thirdly*, not all the crowd-funders contribute for a monetary reward since they may instead support a cause, engage in a trusting and creative community or consume in a novel fashion [147].

Starting from the Cardon et al. [73] definition of entrepreneurial passion, Chen and his colleagues [81] expanded the concept into two dimensional notions: it incorporates an affective aspect, *displayed passion*, and a cognitive one, *displayed preparedness*. Precisely, the former concept refers to the extent to which entrepreneurs exhibit intense positive feelings toward their venture, and the latter denotes the extent to which entrepreneurs' presentation shows their thorough consideration of the business plan.

According to the existing literature, mixed results concerning the displayed passion and professional investors' funding decision have been found: some studies have discovered that displayed passion facilitates investment decisions (e.g., [20], [118], [249]), while others have shown that entrepreneurial passion may have limited or no influence on investment funding decisions (e.g., [71]).

Anyway, in a crowdfunding situation, it has been tested that displayed passion has a positive effect on potential funders' funding decisions. This is because backers might join the campaign due to more than mere financial gain, such as their belief in the cause, or their identification in the community [147]. Davis et al. [107] found indirect positive effects of displayed passion in crowdfunding pitches such that perceived passion can amplify the positive effect of perceived product creativity on funding success; besides, Lu [227] proved how both displayed passion and preparedness are positively related to crowd-funders' contribution to a project and displayed preparedness fully mediates the relationship between displayed passion and the amount of funding attracted.

These findings from previous research support the assumption that displayed passion and displayed preparedness are relevant for the crowdfunding success and justify further investigations on the topic.

2.2 Hypothesis Development

From a deep analysis of the literature, it emerges a lack of studies concerning further insights into how crowd-funders attract funding via persuasion. This gap can be due to different factors among the others: prior studies relied on data from one single platform and each of these platforms is tailored toward a specific mission, varying in terms of usage guidelines and in terms of the overall cost of usage for entrepreneurs [7]; there are different existing scales measuring passion in general [356] or entrepreneurial passion specifically experienced by the entrepreneur [69], which should be integrated or standardized in order to have a common reference metric; the crowdfunding context is very heterogeneous and researchers have not explored yet the different effects of passion and preparedness on specific crowdfunding models or industry, even because of the novelty in the entrepreneurial finance literature concerning crowdfunding. Thus, this paper aims to start exploring this uncovered topic in the literature by addressing multiple research paths:

- Firstly, the authors will investigate the displayed passion and displayed preparedness in the contexts of equity crowdfunding and then, they will compare it to the effects observed in reward-based crowdfunding;
- Secondly, the authors will assess the interaction between displayed passion and preparedness in relation to the campaign success, in the equity crowdfunding context.
- Thirdly, the authors will focus on the reward-based model in order to assess the influence of passion and preparedness on non-tech sectors rather than purely tech ones.

The different effects of passion and preparedness: Equity vs Reward-Based Crowdfunding

Literature has written a lot about how a deficiency of early-stage financing hinders the ability of new entrepreneurs to develop their inventions and knowledge into practical commercial applications [223], [375]. The imperfections of the capital markets caused by the uncertainty of investment returns, the asymmetric information between ventures and potential investors, and the lack of collaterals available to entrepreneurs create financial constraints and funding gaps for new ventures [74], [81], [172], [199]. Researchers agree that, in entrepreneurship, one of the biggest obstacles to transform an idea into a new offering available to the market is to find investors willing and able to take the risk associated with backing the project because most entrepreneurs are not independently wealthy [288]. In addition, according to Lehner [220], informal external investment associated with the friends and family of the founder, or other high net worth individuals (Business Angels) is already far more important than Venture Capital, and crowdfunding has the potential to enhance this form of investments.

Shiller [316] stated that the financial issues related to financing of start-ups can be resolved by an innovative method of securitization named equity crowdfunding. It is due to (1) the increasing number of investors and the amount invested, and (2) the changing of the investor/investees relationship due to possible changes in investor objectives and investor role in the organizations. Compared to other crowdfunding models, start-ups or SMEs leveraging on equity-based crowdfunding offer shares in the company that confers part ownership to third parties in exchange for a cash injection or for other assets [250], [303]. Looking at a general overview of the crowdfunding context, Belleflamme et al. [37] found that the donation-based crowdfunding model has become less common in practice, and most of crowdfunding projects offer either non-financial rewards (final products or tokens of appreciation) or

financial compensations (equity or profit-share arrangement). Pre-ordering enables the entrepreneur to price discriminate between crowd-funders and other consumers. Anyway, as capital needs increase, the entrepreneur is forced to distort the pricing scheme to attract more pre-orders than what is otherwise optimal. Above some threshold, the distortion in the price discrimination becomes excessive, such that the profitability of the crowdfunding initiative decreases significantly [38].

Moreover, the rewarding function in the reward-based crowdfunding model will limit the interaction between a new venture and its investors [220]. Furthermore, according to Belleflamme et al. [38], for larger capital needs, entrepreneurs prefer investments from investors rather than through pre-sales or reward in returns. However, given also the above-mentioned statements, equity crowdfunding will become more inevitable [306] and is one of the current financial innovations to allow simple projects to raise needed capital [316].

Nowadays, the knowledge about campaign success drivers and investors' investment criteria in equity crowdfunding remains very limited. As far as it is concerned, empirical works on the success drivers of equity crowdfunding for mostly unaccredited investors is limited to the work of Ahlers et al. [4]. They examined the Australian equity crowdfunding platform ASSOB to assess the impact of selected start-up features, such as the board, risk factors, and planned exit strategies, on campaign success. In addition, Agrawal et al. [3] analyze data from the Netherlands-based platform Sellaband, which previously allowed for equity-like crowdfunding in the form of revenue sharing. Kim and Viswanathan [198] studied the role of early investors in the success of crowdfunding campaigns in which investors receive a monetary benefit from the success of targets they have funded. Cholakova and Clarysse [83] investigated the motivations that determine individuals' decisions to invest in equity crowdfunding or to contribute through rewards-based crowdfunding.

Instead, Bernstein et al. [40] conducted an experiment on the importance of the availability of different types of information to accredited early-stage investors.

Just in the last years, there has been growing attention to equity crowdfunding. Hornuf and Schwienbacher [181] showed that investors base their decisions on information provided by the investment behavior of other crowd-investors. Vismara [363] revealed that investors with a public profile increase the appeal of the offer among early investors, who in turn attract late investors. Johan and Zhang [189] documented that the length of business descriptions is positively associated with campaign performances. Lastly, Rossi et al. [297] confirmed that higher equity retention by original entrepreneurs positively affects the chances of success of the fundraising.

The present work aims to going deeper in the analysis of the most frequently observed factors of the entrepreneurial process in equity crowdfunding. Recently, Troise and Tani's [346] inquiry has started to examine this process. Outcomes of their work are that entrepreneurs need to not only manage crowd inputs to get additional resources but also to create added value for their companies [367]; besides, entrepreneurs adopting equity crowdfunding campaigns should, above all, consider the kind of backers they want to attract. When they want to attract experienced investors, they should set their campaign offer at an adequate level to attract external stakeholders and relevant industry players [113].

Given what has been presented until now, it is worth doing a step forward into the uncovered field of the equity crowdfunding research by investigating the extent to which backers' perceptions of the passion displayed by entrepreneurs in pitch video presentation affect their investment decisions. This will help in understanding which are the potentially different effects of passion and preparedness in the context of equity crowdfunding dynamics.

Equity crowdfunding shares similarities, on one side, with the angel investing and venture capital forms of funding and, on the other side, with non-equity-based crowdfunding [108], [179], [180], [376]. In particular, similarities between equity crowdfunding and angel investing include similar motivations for investing, the absence of active financial intermediaries, and the investing individual's own decision-making power [376]; instead, the boundary between equity crowd-funders and Business Angels is sometimes vague, and the two groups of investors may compete for the same investments [180].

Anyway, the authors have found also important differences between equity crowdfunding and its comparable funding forms. For what concerns reward-based crowdfunding, equity crowdfunding differs from it in several important aspects: (1) a much higher average amount pledged; (2) a much higher average campaign goal, steadily increasing over time and lately approaching the size of first-round investments for VCs; (3) the existence of (pre-money) valuation of each of the projects, and (4) the clear goal of the backers to obtain a positive monetary return on their investment [366].

Lukkarinen et al.'s [229] study verified how none of the investment criteria traditionally relevant for VC or BAs turned out to be significant in predicting success in their samples. Instead, Lukkarinen et al. [229] provided suggestive evidence that the investment decision criteria of unaccredited equity crowdfunding investors are more like those of providers of other types of crowdfunding than those of more traditional providers of early-stage financing. Aligned to Frydrych et al. [138], they also observed that emotional and social criteria may be more important to equity crowd-funders than financials. A possible explanation given by the authors for this result is linked to the difference in the level of expertise of unaccredited equity crowdfunding investors and VCs or BAs: the less professional "crowds" may either not have the training and

experience, or they may assess target companies along the dimensions of traditionally used investment criteria.

A more complete picture of the comparison between equity crowdfunding and the other mentioned form of funding is depicted below (Table 2.1); affinities are highlighted in grey [229].

Features	Reward-based crowfdfunding	Equity Crowdfunding	Business Angels	Venture capital
Typical founder background	Various, may have no investment experience	Various, many have no investment experience	Fromer entrepreneurs	Finance, consulting industry
Source of funds	Investing own money	Investing own money	Investing own money	Invedting other people's money
Funding instruments	Non financial e.g. products	Shares	Shares	Shares
Deal flow	Through web platform	Through web platform	Through social and/or angel networks	Through social networks and proactive outreach
Due diligence	Very limited: may be conducted by individual, if at all	Conducted by individual, if at all	Conducted by individuals based on their own experience	Conducted by staff in VC firm with potential assistance from outside firms
Geographic proximity of funders	Investments made online: funders often distant from venture	Investments made online: funders often distant from venture	Most investments local	Invest nationally (or internationally wil local partners)
Pyayt P. Oo, Thomas H. Allison, Arvin Sahaym, Sakdipon Juasriku (2019)	Most remain passive	Most remain passive	Acrive (hands-on)	Active (strategic)
Return on investment	Financial return not relevant	Financial return not relevant (but not the only reason for investing)	Financial return not relevant (but not the only reason for investing)	Financial return critical

Table 2.1: Crowd-funders and professional investors similarities

In their study, Chen et al. [81] found preparedness to be positively related to the VC funding decision, whereas the effects of perceived passion turned out to be statistically insignificant. These findings were intriguing because, on the surface, they seemed inconsistent with prior entrepreneurship research that indicates a positive relationship between passion and firm- or individual-level outcome variables such as venture growth/success [30] and entrepreneur financial success [21], [22], [322]. Consistent results were assessed by Cardon et al. [71], who evaluated displayed preparedness as positively associated with investment at the funding stage, while both displayed

enthusiasm (affective passion) and displayed commitment (behavioral passion) have aspects that lead to increased perceptions of passion but also have aspects that lead both to decreased and increased interest at the screening stage. One possible explanation for Cardon et al.'s findings could be related to literature regarding individuals displaying emotions they do not feel in order to secure more positive outcomes for themselves or their organizations [285]; BAs may be weary of being influenced in this manner and therefore are suspicious of some aspects of displayed passion.

Li et al.'s [222] research focuses on a reward-based crowdfunding project sample and discover that displayed passion serves to substantially increase the funding amount; the difference with Chen et al. [81] and Cardon et al. [73] studies is deemed to be related again to the fact that crowdfunding backers likely have low expertise and low vested interest, and thereby rely more on simple cues than on objective fundamentals, when making funding decisions.

Given what it has been said before, since it is possible to state that in terms of fundraising process equity crowdfunding is more akin to reward-based crowdfunding than to professional investors, the first and the second hypotheses can be stated:

Hypothesis 1 *In an equity crowdfunding campaign video pitch, an entrepreneur's displayed entrepreneurial passion is positively associated with the project's equity crowdfunding performance.*

Hypothesis 2 *In an equity crowdfunding campaign video pitch, an entrepreneur's displayed preparedness is positively associated with the project's equity crowdfunding performance.*

Over years, a lot of studies have been conducted to analyze which factors are associated with the probability of a successful crowdfunding campaign. However, such analyses (e.g., [250]) have been performed mostly on reward-based campaigns

[366], looking generally at Kickstarter [89], [215]. Lukkarinen et al. [229] have conducted one of the first research focused on the determinants of crowdfunding success relying on data coming from equity crowdfunding campaigns. Campaign success has been found to be associated with several campaign characteristics, the most important of which include early funding collected from private networks, social media networks, and the size of the minimum allowed investment; in addition, success drivers related to the number of investors include the funding target, campaign duration, the provision of financial information in the pitch, and a B2C orientation of the company's offering. Conversely, a thorough assessment of the company in terms of team, markets, concept, scalability, stage, and deal terms did not seem to predict success in equity crowdfunding. Venslavienė et al. [360] were able to go further affirming that the risk associated with the project is considered as the most important of all criteria (Risks associated with project, Risks associated with project initiator, Risks associated with intermediary). This is aligned with the e-commerce literature [100], [149], according to which it is essential to have a secured transaction system for buying various products [39], [178], [383] and according to which online shops must be reliable for their customers [111], [124], [361]. In turn, it is possible to find many synergies between an e-commerce model, a reward-based crowdfunding model and an equity crowdfunding one about the determinants of success.

Anyway, Lukkarinen et al. [229] explained that the availability of financials in the pitch of an equity crowdfunding campaign is positively associated with the number of investors, albeit not significantly related to the amount raised. Hence, reporting some economics may be considered a sign of credibility and capability, while their absence may be considered dubious or unprofessional by investors. Comparing this finding with the earlier result that the quality of financials is not related to campaign success,

it appears that while it may be useful to provide some financials in the campaign, the attractiveness of these financials may not be as relevant in attracting investors.

To the extent of this research, although entrepreneurial passion is relevant for equity crowd-funders, it can have much more relevance for reward-based crowd-funders because they do not depend on a financial return; for crowd-funders who support an equity model the risk assessment of the investment will be more important. Accordingly, it can be assumed that an entrepreneur can more likely enthuse an investor with his passion to support his project if the person does not aim to receive a monetary return. Hence, the third hypothesis can be assumed:

Hypothesis 3 *The positive effect of displayed passion in equity crowdfunding is lower than the one in reward-based crowdfunding*.

Talking about the results of their study, Chen et al. [81] reported the VCs as more receptive to cognition-based preparedness. They tended to focus on their perceptions of how prepared an entrepreneur was as a way of "feeling" the entrepreneur's passion for his or her venture. In other words, the results were found to be more nuanced than the general understanding of passion as used in ordinary parlance. When talking of equity crowdfunding, the authors refer to investors which are more professional compared to the ones of reward-based crowdfunding but still they are not all VCs or BAs. Thus, it is legitimate to believe that the preparedness and passion effects are distinct and not "disguised" as mentioned above in the Chen et al. [81] study; furthermore, with respect to reward-based crowd-funders, it is possible to affirm that equity investors consider entrepreneurs' preparedness more as a pre-requirement for their funding decision. Equity fundraisers are conscious to target a more sophisticated public than in the reward-based case and so they have to show to be prepared, otherwise they will not receive any funding at all.

Starting from these reflections, the fourth hypothesis can be expressed:

Hypothesis 4 *The positive effect of preparedness in equity crowdfunding is lower than the one in reward-based crowdfunding*.

Temporary emotions, such as those elicited through the passion contagion process, tend to diminish once the stimuli (such as the immediate presence of the passionate entrepreneur) are removed [35]. Cardon et al. [71] suggested that the relationship between enthusiasm, preparedness, commitment and greater evaluations of funding potential would be mediated by the level of passion perceived by BAs: one of the most important outcomes was that displayed preparedness does have an indirect effect on BAS's interest at the screening stage, with the effect occurring through perceived passion. Concerning the reward-based crowdfunding context, Li et al. [222] found positive indirect effect of displayed passion via viewers' experienced enthusiasm on viewers' intended funding amount for the project and viewers' willingness to share project information; in addition, Davis et al. [107] results indicate that the indirect effect between perceived product creativity and crowdfunding performance will be larger when pitches are led by entrepreneurs who are perceived to be highly passionate, as compared to those perceived as less passionate.

Equity investors, differently from reward-based backers, disregard more those projects with a low displayed preparedness even in case of a sufficiently high degree of the entrepreneurial passion displayed, being them more sophisticated. It is possible that, instead, the solely effect of high passion or high preparedness in reward-based crowdfunding is deemed sufficient to consider a campaign worth to be fund; on the other hand, equity investors could perceive a high displayed preparedness as a pre-condition for the entrepreneurs approaching an equity crowdfunding campaign. Starting from these reflections, it is possible to think that a high displayed passion effect added to a high displayed entrepreneurial preparedness could be more effective

in an equity crowdfunding context, since entrepreneurs could be perceived even more persuasively and thus, contributing to a higher probability of campaign success.

Based on this reasoning and given *Hypothesis 3* and *Hypothesis 4*, the authors believe that it is interesting to hypothesize a moderating role of passion on preparedness on the overall campaign success in the equity crowdfunding campaign context.

Hypothesis 5 *When preparedness is high, the effect of passion increases the probability of success of equity crowdfunding campaigns.*

The different effects of passion and preparedness in the reward-based model: Tech vs Non-Tech projects

The analysis of the previous literature concerning the study of passion in crowdfunding revealed some further information. As a matter of fact, the papers considered rely on data gathered from specific projects' category/industry or on data collected to capture a cross-section of all crowdfunding projects. This is done in order to aggregate information in the more homogeneous way possible or simply to avoid sample-selection bias and to avoid the threat to validity posed by "cherry-picking".

Anyway, it has been found empirically that ventures in different industries or sectors are systematically different in age, revenue, pre-crowdfunding business valuation, adoption of video introduction, usage of qualitative business introduction, availability of managers' photos, amount of capital sought and estimated investment horizon [190]. It has been estimated that even fundraising outcomes of ventures in various industries or sectors are different both in terms of percentages of fully funded projects and of amount collected compared to the total required. Besides, additional analyses show that investors focus on different business aspects when contributing capital to start-ups from different industry sectors [190].

Table A.1. exhibits a summary of the papers examined highlighting the crowdfunding model at the base of the work and the industry/category source of the data.

Previous researchers have demonstrated that industry factors are deemed to be essential in corporate development, financial management, business performance and firm valuation. Lev [221] verified that companies periodically adjust their financial ratios to their industry means; Gupta and Huefner [160] found that industry characteristics affect fixed asset turnover, current asset ratios, inventory turnover, average collection period and cash velocity; Alford [6] revealed that the industry factor is a valid proxy for risk and earnings growth components related to P/E multiples; Waring [370] observed that the persistence of abnormal returns differs widely and systematically across industries; Chava and Jarrow [80] established that bankruptcy likelihood is affected even by industry effects; again, Baird, Geylani and Roberts [15] suggested that corporate social performance and corporate financial performance relationship is impacted by sectors' factors.

One of the first works investigating the investors' preferences of crowdfunding projects in different industries is the one written by Johan and Zhang [190], in the context of equity crowdfunding. They posit that the industry factor is a signal affecting firm valuation for crowdfunding ventures as it can reveal intuitively obvious and underlying, but possibly unobservable, firm characteristics to investors [319], [320], [321]. Furthermore, they assert that investors have universal preferences for equity crowdfunding start-ups from the same industry sector: all firms within the industry project the same costly signal and investors may still not be able to differentiate high- and low-quality firms within the same industry. Therefore, they examined other signals projected by firms within an industry as firm characteristics, project goals, managerial skill, fundraising goals, and post-crowdfunding outlook as these signals are costly to imitate and have been shown to influence investors' behavior and

fundraising outcomes. Their findings show that equity crowdfunding investors' preferences and emphasis on certain business characteristics in each industry drive up fundraising premium: for example, entrepreneurs' estimate on product market size provides useful reference for investors focusing on Manufacturing Industry and Information and Cultural Industry, but not for investors interested in Professional, Scientific, and Technical Services Industry, Retail Trade Industry, Real Estate Rental and Leasing Industry, or Health Care and Social Assistance Industry.

In the present work, the authors will specifically focus on Kickstarter's projects divided into two main categories: tech industry-related projects and non-tech industry-related projects. First, this decision comes from observed Kickstarter's data: tech projects are about 8,8% of the total projects published (Top 5 categories), contributing to the 18% of the whole funds collected (top 3 categories) but with the lowest success rate among all the categories (21,43%) [196]. Secondly, tech projects are deemed to have different characteristics from other non-tech projects.

Early-stage technology firms need a lot of capital, often very quickly in comparison to other types of ventures; R&D expenses, patent filings, equipment purchases, laboratory space rentals, staffing costs, prototyping and beta-testing, commercialization support, clinical trials, and government regulatory approvals are all inevitable expenses. Given that, entrepreneurs in high technology sectors consistently cite initial financing and subsequent capital support as a major area of focus and anxiety [53], [158], [290], [299]; not surprisingly, over the past three decades the funding sources for early-stage technology-based firms have become both more institutionalized and more segmented. All funding institutions, whether private or public, are acutely interested in identifying and supporting future "success stories", hence only a small percentage of technology proposals and emerging enterprises

actually ever get funded and among those that do obtain funding only a select few are truly successful [141].

Li et al. [222] focused on tech activities because they are supposed to serve as the genesis for new ventures rather than as once-off creative endeavors, which is often the case for other categories such as film, dance, theater, and art projects. Chan and Parhankangas [77] based their work on the information collected from the Kickstarter technology sector since they have been deemed to offer innovative products that differ in their levels of incremental and radical innovativeness with respect to the products of the other categories, allowing them to capture the corresponding variance. Specifically, campaigns that feature greater radical innovativeness have been discovered to be riskier to develop, harder for crowd-funders to understand and so resulting in less favorable funding outcomes.

Johan and Zhang [190] found that managers' industry experience, entrepreneurs' estimate on product market size and firm revenues are not so important backers' investment drivers in tech industry-related ventures as instead in others; on the other hand, R&D, length of qualitative business introductions, managers' educational level and industry average crowdfunding success rate in prior months affect more tech projects fundraising in comparison with non-tech ones. In addition, previous researchers have already explored the possibility of substantial differences in fundraising between tech-based firms and non-tech-based firms (e.g., [239], [384]).

Eventually, the present work sets the target to continue to investigate the impact of displayed passion and preparedness on tech-related projects rather than on non-tech ones.

Galbraith et al. [141] have worked on a sample of a total of twenty-two video-taped proposal presentations. To begin with, they collected evidence that both the

entrepreneurial passion and style of the presentation influence an expert panel's assessment of the merits of a technology-based enterprise during a formal presentation process for grant funding: with this in mind, entrepreneurs making presentations, regardless of the merits of their technology and business plan, can either help or hurt their case. In addition, an important finding from the perspective of funding agents has been that the passion of the entrepreneur as experienced and perceived during the formal presentation was associated with the future success of the enterprise, thus it appears that there may be, indeed, measurable elements related to the presentation process other than the content that can be possibly used to predict future success. Yitshaki et al. [379] stated that entrepreneurs proposing projects in high-tech sectors tends to have an entrepreneurial passion more targeted to leading meaningful activities and the challenge therein with respect to other entrepreneurs; Drnovsek et al. [116] centered their analysis on high technology firms crowdfunding campaigns testing entrepreneurial passion, goals and venture growth: they revealed a direct positive effect of passion for developing on venture growth and an indirect positive effect mediated by goal commitment. Hence, the results suggest an important relationship between individual passion of the entrepreneur and growth of the venture in high technology contexts. Both these last two studies leave space to further research investigating whether these contexts lead to amplified campaign success or not.

Starting from these studies, the authors of the present work aim to dig into the research about passion and preparedness differences amid tech and non-tech crowdfunding projects.

The tech projects tend to be characterized by entrepreneurs' displayed passion too; this passion has been observed as positively correlated to other factors (e.g., venture growth), just as previous research has demonstrated relying on cross-sectorial

crowdfunding projects samples. Anyway, in the context of the reward-based crowdfunding model, the projects included in the tech category are the ones receiving most fundings without reaching the campaign success. In this context, given that backers are unsophisticated, it is likely that tech entrepreneurs are less able to affect their campaign success by displaying passion.

Hypothesis 6 *In reward-based crowdfunding, the positive effect of passion is higher in non-tech projects than in tech projects.*

Tech projects have the lowest success rate on the Kickstarter platform; it has been demonstrated that, rather than non-tech projects, they are more likely to end up as the first step towards the creation of a new venture; tech-related crowdfunding campaigns backers have been proved to be affected more by entrepreneur personal experience and background than by contextual elements peculiar to the specific industry. Hence, the tech industry fundraisers may focus more on detailed pitches and business plan descriptions, given the complexity of the matter they are treating. The risk is to present the project in a very rough way, conveying negative signals to backers who, being unsophisticated investors, need certainties about the goodness and the project innovation.

Hypothesis 7 *In reward-based crowdfunding, the positive effect of preparedness is higher in tech projects than in non-tech projects.*

3. Chapter three: Dataset description

3.1 Studies overview

In the current work, two different studies have been conducted to test the above-mentioned theoretical assertions. In the first study, the authors relied on archival data from two equity-based crowdfunding platforms, Seedrs and Crowdcube, in order to test Hypothesis 1-5. Once the projects have been selected, each author has watched the introductory videos and then evaluated entrepreneurs' displayed passion and preparedness. Then, through the help of the software Stata, a model has been implemented on the scores given, in order to analyze their assessments in relation to the actual project outcomes. Moreover, it has also been investigated the comparison between the effects of passion and preparedness on equity-based projects with respect to reward-based projects, taken from a reward-based crowdfunding platform, Kickstarter.

On the other hand, in the second study, the authors relied on archival data from Kickstarter in order to test Hypothesis 6-7. Once selected specific type of projects, each author has watched the introductory videos and then evaluated entrepreneurs' displayed passion and preparedness. Then, through the help of the software Stata a model based on the scores given has been implemented in order to analyze their assessments in relation to the actual project outcomes.

Data sources

The sources from which the samples have been extrapolated are related to different platforms. Starting from the equity crowdfunding model, this research leverages on the work done by Butticè et al. [62], who retrieved the data from the Seedrs and Crowdcube platforms and created the initial dataset.

In addition, multiple online resources have been used to ensure the maximum coverage, including Wayback machine and Crunchbase, to pick information about campaigns that received equity crowdfunding but, for some reasons, were not accessible on platform websites anymore. The master database contains 753 observations and different variables describing equity crowdfunding campaigns ranging from 2017 to 2019, including projects' IDs, the campaign names, the sectors, the fundraising years, the fundraising rounds, the entrepreneur names and the amounts raised. Start-ups in the sample are from very different industry sectors, based on Crowdcube's and Seedrs' classification: Advertising & Marketing, Aerospace, Agriculture, Apparel & Fashion, Art, Automotive & Transport, Brewery, Chemical, Clothing & Accessories, Construction, Content & Information, Data & Analytics, Delivery, Digital Media Services, E-commerce, E-learning & Education, Energy, Entertainment & Events, Finance & Investments, Financial Services, Food & Beverage, Game, Health & Wealth, Home & Personal, Information Technology and Services, Insurance, Legal Services, Logistic, Medical, Music, Nursery, Payments, Photography, Platforms, Programming, Real Estate, Recruitment, Retail, Security, Software, Travel, Leisure & Sport, Wellness.

Coming to the reward-based crowdfunding model instead, data comes from Kickstarter, one of the largest reward-based crowdfunding platforms in the world [107]. Through the Web Robots platform, every Kickstarter project funded between

2016 and 2017 has been downloaded to create a database including 76.904 projects [372]. Web Robots is a service materialized in October 2013 based in Vilnius, Lithuania. It hosts a battle-tested web crawler platform and serves B2B customers, spanning several cloud providers and collecting tens of millions of data points daily. In particular, Web Robots has a scraper robot that crawls all Kickstarter projects and collects data in CSV and JSON formats; from this process, the master has been created [372].

The initial dataset contained different variables describing the projects. The information that can be found are related to the project itself (e.g., *id, state, url_project, name, launched_at, deadline, goal, currency, category, location*), to the team (e.g., *staff_pick, creator_name*) and to the backers (e.g., *backers_count, pledged*).

Before starting with the model assessment, it has been necessary to create the final dataset on which to work. The samples created from the reward-based and equity crowdfunding platforms databases contain videos for which it was possible to collect information about the variables needed for the study. The variables are the following: *ID, State_campaign, Video_length, Funding_Goal, d_Country, Team_size, d_Gender, d_Exp, d_TECH*. After having selected the projects, they were filtered also based on the feasibility of evaluating their video pitches in order to rank every item composing the passion and preparedness scores. Each of the authors checked all the videos and then the agreement between the evaluations given; after that, all those videos whose passion or preparedness scores attributed by the authors were conflicting (i.e., there was a difference between the scores > or = to 1 out of 5) have been re-checked, one by one, spotting the differences that led to different point of views and re-evaluated with the aim of arriving at an agreed grade.

3.2 Study 1: Empirical Setting - Crowdfunding at Seedrs and Crowdcube

The data used for the analysis comes from Seedrs and Crowdcube, the two leading equity crowdfunding platforms for volume raised and for number of transactions [76] headquartered in UK, the former founded in 2012 and the latter in 2011. Both platforms adopt the traditional "all-or-nothing" funding approach [38], which allows entrepreneurs to receive funding only if the campaign raises 100% of the target (i.e., if the campaign is successful). If the target amount is not met, investors receive their money back. On the contrary, in case the capital raised met the target amount before the end of the campaign, both platforms provide an overfunding option, which grants firms the right to issue further shares to raise additional financing. As noted by prior research, platforms do not archive all previous successful equity crowdfunding campaigns on their websites [368].

Crowdcube's mission is "to fuel the next generation of businesses who want to leave a mark on the world" and, differently from Seedrs, its platform is not only limited to equity investing but also extended to debt investing. Both the players work similarly like usual equity crowdfunding platforms such that in the first half of 2020, they topped Beauhurst's State of UK Crowdfunding report, with similar, impressive performances. Seedrs closed 95 deals and raised £49.7m, while Crowdcube secured 97 deals and generated £48.5m, all throughout the COVID-19 pandemic. Actually, the two players announced a merger in 2020 which was blocked by the regulator, though. The Competition and Markets Authority (CMA) has put a spanner in the works for the planned takeover of Seedrs by fellow crowdfunding platform Crowdcube saying that the proposed merger "may be expected to result in a substantial lessening of competition (SLC) within the supply of equity crowdfunding platforms to SMEs and investors in the UK.". Following an investigation, the new company would have held

a combined share of between 90% to 100% of the equity crowdfunding market in UK [10].

However, that did not stop both platforms to achieve important targets in 2020. Crowdcube announced to have become profitable for the first time in its 10 years history after recording a 2020 loss [1], seeing also the total found raised by its campaigns exceeding £1 billion since 2011; on the other way, Seedrs mission held strong and thrived reaching a record £293 million amount collected by campaigns with businesses from 18 different countries raising capital. In addition, 2020 was a big year even for the Seedrs Secondary Market, the only fully functioning early-stage equity secondary market in the UK that enables you to buy and sell the shares of businesses that have raised investment on Seedrs, growing by +193% in value transacted reaching £5 million in transactions and 250% profit increase per seller. Table A.2. shows a more comprehensive picture of Crowdcube's and Seedrs' features [117].

3.2.1 Sample and Data Collection

The data has been combined from multiple sources and used for the analysis aimed to discover which effect is conveyed to the campaign success given different levels of passion and preparedness.

Starting from the information found on Seedrs and Crowdcube, the collection of data activity resulted in a database of 753 observations, among which 100 of them were picked to constitute the final equity crowdfunding videos sample, according to the following process.

The sample size of 100 cases has been considered satisfactory given the comparable dimension with the Kickstarter's observations samples and given the limited number of projects suitable for the analysis. The authors excluded from the sample all those videos not longer than one minute and also all those videos in which the entrepreneur

couldn't be seen for a sufficient time talking (i.e., at least 60 seconds). This resulted in 517 videos. Furthermore, all those ventures for which there was a lack of details, needed to assess the control variables, were dropped. From this sample of 168, we randomly selected the final 100 projects to be analyzed, assuring that there was an equilibrium within the sample in terms of % succeeded/failed projects.

Concerning the balancing between the two platforms, even if Crowdcube's projects populate the majority of the database, it was more difficult to retrieve data from the platform (Table 3.1, Table 3.2). In fact, even if both platforms tend to delete all previous failed equity crowdfunding campaigns on their websites, Seedrs's unsuccessful ventures videos are more often available on the campaign web pages, while for Crowdcube's projects, videos have been found mainly through external web sources (e.g., Vimeo).

Platform	Freq.	Percent	Cum.
Crowdcube	**381**	**58.53**	**58.53**
Seedrs	**270**	**41.47**	**100.00**
	651	**100.00**	

Table 3.1: Platforms database distribution

Platform	Freq.	Percent	Cum.
Crowdcube	**42**	**42.00**	**42.00**
Seedrs	**58**	**58.00**	**100.00**
	100	**100.00**	

Table 3.2: Platforms' sample distribution

The sample is composed by campaigns run between 2017 and 2018, of which 50% successfully and 50% not successfully. The balance between the number of achieved and not accomplished fundraisings has been deemed necessary in order to avoid that the result of the research could be potentially influenced by a heterogeneous sample in terms of whether the goal was reached or not.

The amount raised varies from a minimum of $19,044 to a maximum of $5,218,601.

Eventually, the sample was built considering to be representative of the database in terms of UK-based projects with respect to the others (i.e., total amount of UK-based projects in the database: 511/753 (about 67%); UK-based projects in the sample: 65/100 (65%)).

3.3 Study 2: Empirical Setting - Crowdfunding at Kickstarter

Kickstarter is an American public benefit corporation based in New York, which stated mission is to "help bring creative projects to life". Using the Kickstarter platform, a data set has been constructed to capture campaign characteristics and funding outcomes. It is a reward-based crowdfunding platform that operates worldwide and is currently the largest existing crowdfunding provider in terms of money raised and projects financed. Data from Kickstarter has also been used in other works (e.g., [89], [214], [250]), enabling comparisons across studies.

Kickstarter hosts crowdfunding campaigns in a large number of categories, including Art, Comics, Crafts, Dance, Design, Fashion, Film & Video, Food, Games, Journalism, Music, Photography, Publishing, Technology, and Theater. Its website was launched in the second quarter of 2009 by Perry Chen, Yancey Strickler and Charles Adler. As of July 2021, Kickstarter has received nearly $6 billion in pledges from 20 million backers to fund 205,000 projects [196]; the platform applies a 5% fee on the total

amount of funds raised. Kickstarter employs an "all–or–nothing" and "reward-based" crowdfunding model. "All or nothing" means that in case the money pledged to a project by the day a campaign closes is equal to or greater than the target amount, then the money is cashed in by the proponent; otherwise, the campaign is unsuccessful, and all pledges are voided. "Reward-based" means that backers pledge money in exchange for a reward chosen from various rewards offered by a project's proponents. Kickstarter crowd-funders receive tangible, nonmonetary rewards for their contributions, often in the form of pre-purchasing products or services, or tokens of appreciation such as thank you notes [215]. There may be different types of rewards, for instance, a finished product, a gadget, and participation in an event such as the first screening of a film. Rewards cannot be a share of profits, an interest rate, or anything else that might configure the transaction as involving an offer of equity or a loan. Backers may opt to decline a reward, but in general, the platform does not allow the collection of money for charitable or philanthropic initiatives.

Many Kickstarter campaigns have evolved into ongoing ventures, and some have gone on to receive venture capital funding, such as Oculus Rift, which received $16 million in Series A funding and $75 million in Series B and was acquired by Facebook [155], [250].

Kickstarter offers a window into projects open for crowdfunding at the specific moment that a user approaches its website. The projects may be browsed by category. When clicking on a project name, the user is taken to a page containing a description of that project. Usually, the description is written and complemented by pictures or videos. The other immediately available information is the real-time amount of capital raised, the percent of target capital raised, the number of people who have pledged, and how many days remain before the closure of the campaign. Proponents can provide information about themselves in a biography section, which also traces their

prior activities as backers or proponents. Backers' identities are not visible during a campaign.

Data updated on November 1, 2021 about Kickstarter projects' categories are shown below (Table 3.3).

Category	Published projects	Total dollars ($)	Dollars collected ($)	Contributions to unsuccesfully funded projects ($)	Dollars in acrive projects ($)	Active projects	Success rate
All	**536675**	**6,13 B**	**5,56 B**	**518 M**	**52 M**	**3077**	**39,12%**
Art	45070	165,94 M	149,89 M	15,06 M	992,96 K	336	46,89%
Handicraft	12547	23,3 M	19,44 M	3,78 M	78,05	70	26,18%
Food	32036	187,42 M	160,41 M	26,42 M	588,09 K	142	15,75%
Cinema and video	78465	507,81 M	434,92 M	72,05 M	838,52 K	246	37,90%
Dance	4360	15,3 M	14,2 M	1,08 M	16,05	7	61,54%
Design	46677	1,38 B	1,27 B	97,32 M	13,33 M	333	39,93%
Editorial	55251	229,79 M	204,68 M	23,46 M	1,65 M	347	35,09%
Photography	13051	55,52 M	49,13 M	6,18 M	207,04 K	34	33,57%
Comic books	19783	156,63 M	146,9 M	7,39 M	2,34 M	254	62,28%
Games	63264	1,72 B	1,61 B	94,76 M	16,97 M	676	43,89%
Journalism	6022	19,58 M	17,2 M	2,38 M	7,89	10	23,24%
Fashion	35009	213,68 M	188,83 M	24,23 M	625,10 K	192	29,80%
Music	65218	265,84 M	244,21 M	21,16 M	471,40 K	155	50,34%
Theater	12514	47,8 M	42,97 M	4,82 M	18,32	14	59,95%
Technology	47417	1,14 B	1,01 B	118,25 M	13,47 M	261	21,45%

Table 3.3: Kickstarter data as of November 2021

3.3.1 Sample and Data Collection

This paper seeks to understand the role played by displayed passion and preparedness in different project categories of the reward-based crowdfunding model. Hence, the authors focused on one side on tech projects, while on the other side on non-tech projects of the Kickstarter platform. From the 76,904 initial projects, the authors selected 100 tech projects and 100 non-tech projects.

In both cases, the projects making part of the sample were cherry-picked with the aim of resulting in 50% as successful and 50% of them as failed: this was done to avoid

distorted effects of passion and preparedness on campaigns outcome, an unbalanced proportion of successful/failed projects could have led to biased findings. By Kickstarter's criteria, the campaigns are defined "successful" if they meet their target financial goal, otherwise they are defined as "failed".

In order to limit the time horizon of the sample to avoid too much variability and to alleviate the effect of macroeconomic trends, based on the projects available in the dataset, the sample was limited to campaigns initiated from the January 10, 2016 to September 19, 2017 (Table 3.4).

year	Freq.	Percent	Cum.
2016	**69**	**34.50**	**34.50**
2017	**131**	**65.50**	**100.00**
	200	**100.00**	

Table 3.4: Yearly sample distribution

Moreover, the process related to perceived and displayed passion and preparedness could be different in different countries. As a matter of fact, even if projects located in UK and in US constitute the main part of the database, the research distinguishes between those and the ones developed in other countries: both UK and US entrepreneurs and backers could be more familiar with the practice of crowdfunding hence, even the process related to perceived and displayed passion and preparedness could be different. Therefore, the final sample included 150 US-based projects, 15 UK-based ones and 35 located in other countries.

As in case of equity crowdfunding, the metric measuring passion and preparedness need to be applied on the pitch videos [81] thus, those campaigns without videos were excluded at the time of data collection [222]. Likewise, this study includes only those videos lasting more than one minute and the ones in which, differently from tv commercials for instance, it was distinctly possible to evaluate entrepreneurial passion and preparedness, observing clearly the entrepreneurs while speaking and for a time period reasonably long enough (i.e., 60 seconds).

To decrease heterogeneity within the sample of tech category, only projects seeking more than $5,000 were taken because, at this funding level, crowdfunding projects begin to represent serious efforts in raising funds for entrepreneurial endeavors [250]. Of the 100 campaigns in this sample, only projects from the following categories were picked: art, design, fashion, film & video, food, games and music (Table 3.5).

category	Freq.	Percent	Cum.
art	**14**	**14.00**	**14.00**
design	**11**	**11.00**	**25.00**
fashion	**13**	**13.00**	**38.00**
film&video	18	18.00	**56.00**
food	**14**	**14.00**	**70.00**
games	**16**	**16.00**	**86.00**
music	**14**	**14.00**	**100.00**
	100	**100.00**	

Table 3.5: Equity crowdfunding categories

The projects related to the categories excluded were deemed to be far from the typical concept of entrepreneurship as the people asking for funding were closer to the

concept of entertainment or charity, unlikely to evolve their proposed Kickstarter projects in real ventures.

The target capital for these projects belonging to the categories chosen varies a lot for specific categories, ranging from $500 to $900,000. Thus, for non-tech projects a minimum target threshold was not set. The variety of the categories could not allow the researchers to set a bottom limit for the campaigns picked, since the projects included in some categories could represent a valid entrepreneurial endeavor even targeting a low capital sought (i.e., the amount needed to fund a sound art project could be $500).

Each of the above-mentioned categories has more than 30,000 published projects and more than $150 million raised on Kickstarter. Games and design sections were also chosen in other important research (e.g., [89]) since they are said to offer innovative products that differ in their levels of incremental and radical innovativeness [77], being even more representative of the entrepreneurship spirit; on the other hand, film & videos category has been object of another important study focusing on entrepreneurial passion and crowdfunding linked to the creative industries (e.g., [214]).

Besides, data was compiled additionally from two sources. The authors relied on campaign descriptions appearing on the Kickstarter platform and used ventures websites, such as the ones linked on the Kickstarter's web page, to collect campaign information (i.e., prior entrepreneurial experience, project team size).

3.4 Measures: The Chen entrepreneurial perceived Passion and Preparedness metric

To measure perceived passion and preparedness the authors relied on Chen et al. [81] entrepreneurial passion scale. In the following paragraphs, the scale content is explained and how it was applied to crowdfunding videos.

3.4.1 Scale Content

Chen et al. [81] provided a scale to capture the perceived entrepreneurial passion based on presenters' body gestures, tone, and facial expression in the context of live on-site entrepreneurship presentations. They did it to measure VCs' perception of entrepreneurs' passion and preparedness based on entrepreneurs' business plan presentations; the 11-item scale consists of a 6-items measuring displayed passion and of a 5-items scale measuring displayed preparedness.

The first one embodies the following items aimed at capturing the entrepreneur passion (affective passion):

- The presenter(s) had energetic body movements;
- The presenter(s) had rich body language.
- The presenter(s) showed animated facial expression.
- The presenter(s) used a lot of gestures.
- The presenter's face lit up when he/she or he talked.
- The presenter(s) talked with varied tone and pitch.

Instead, the preparedness (cognitive passion) metric has these items:

- The presentation content had substance.
- The presentation was thoughtful and in-depth.

- The presentation was coherent and logical.
- The presenter(s) articulated the relationship between the business plan and the broader context.
- The presenter(s) cited facts to support his/her arguments.

3.4.2 Scale Development

Chen et al. [81] adopted an inductive, qualitative and multistage approach to develop the scale.

The first phase started with the authors administering an open-ended survey to 51 business executives, professors, doctoral students and MBA students; they ask the respondents to leverage on their experience and so to indicate the nonverbal cues and behavioral indicators that would make them think that a presenter or speaker was passionate about her or his work. The results were 239 statements provided which were sorted into six categories by the authors, finding high consistency between their sortings (r=0.92). To conclude this initial step, the researchers chose the most frequently mentioned or typical items from each category to form the "primary perceived passion" scale, including overall 22 items.

In the second step, the researchers tested the construct validity of the 22 items by asking 224 undergraduates, MBA and doctoral students to evaluate videotaped or live presentations; they conducted an exploratory factor analysis that led to a five-factor solution explaining 73% of the total variance. Then, they dropped 3 items that had high cross-factor loadings from further analysis; a second exploratory factor analysis revealed a two-factor solution explaining 68% of the total variance in the sample and made them dropping other 8 items with high cross-factor loadings. The remaining 11 items has constituted the "final perceived passion" scale (the first 6 items loading on

factor 1 were related to the perception of passion, while the last 5 items loading on factor 2 reflected the perception of preparedness).

To conclude, the authors determined the construct validity of the 2-factor model of the 11-item perceived passion and preparedness scale performing a confirmatory factor analysis (CFA) using data from 55 judges in a business plan competition at the authors' university. The analysis revealed an adequate fit for the two-factor model, ($X^2 = 106.31$, $p\text{-value} < 0.000$), but a poor fit for the one-factor model ($X^2 = 547.59$, $p\text{-value} < 0.000$): these results certificate the better fit of the 2-factor model and, since the correlation between the two subscales is moderate, it suggests that passion and preparedness are distinct but related constructs.

3.4.3 Chen scale employment

The present work focuses on measuring affective and cognitive passion in different crowdfunding contexts; hence the authors have made use of the Chen et al. [81] scale in order to quantify them. The authors have watched and analyzed crowd-funders pitch videos to indicate the degree to which they agreed with the following statements on a 5-point Likert scale:

Related to passion:

- On a scale from 1 ("not at all") to 5 ("frequently"), the presenter(s) had rich body language.
- On a scale from 1 ("not at all") to 5 ("frequently"), the presenter(s) showed animated facial expression.
- On a scale from 1 ("not at all") to 5 ("frequently"), the presenter(s) used a lot of gestures.

- On a scale from 1 (“not at all”) to 5 (“frequently”), the presenter(s) talked with varied tone and pitch.

Related to preparedness:

- On a scale from 1 (“strongly disagree”) to 5 (“strongly agree”), the presentation content had substance.
- On a scale from 1 (“strongly disagree”) to 5 (“strongly agree”), the presentation was thoughtful and in-depth.
- On a scale from 1 (“strongly disagree”) to 5 (“strongly agree”), the presentation was coherent and logical.
- On a scale from 1 (“strongly disagree”) to 5 (“strongly agree”), the presenter(s) articulated the relationship between the business plan and the broader context.
- On a scale from 1 (“strongly disagree”) to 5 (“strongly agree”), the presenter(s) cited facts to support her arguments.

Each video has been rated by each author independently. After that, the ratings were compared and the evaluations were smoothed in case of large differences in terms of judgement, assessing every single item composing the overall passion and preparedness scores; moreover, after having exchanged views about the ways through which the rating items were defined, standard guidelines in evaluation have been set and each video was re-assessed.

In order to test the coherence among the authors’ rankings, a statistical measure of the agreement achieved has been computed. The inter-rater agreement was measured with the Krippendorff's Alpha intercoder reliability coefficient; it is a standard metric used to quantify the extent of accordance among observers, coders, judges, raters, or measuring instruments drawing distinctions among typically a set of units of analysis [207].

α's general form is:

$$\alpha = 1 - \frac{D_o}{D_e} \tag{1.1a}$$

where D_o is the observed disagreement among values assigned to units of analysis and D_e is the disagreement one would expect when the coding of units is attributable to chance rather than to the properties of these units:

$$D_o = \frac{1}{n} \sum_c \sum_k o_{ck\ metric}\ \delta^2_{ck} \tag{1.1b}$$

$$D_e = \frac{1}{n(n-1)} \sum_c \sum_k n_c\ n_{k\ metri\ c}\ \delta^2_{ck} \tag{1.1c}$$

The arguments in the two disagreement measures, o_{ck}, n_c, n_k, n refer to the frequencies of values in coincidence matrices. Algebraically, when observers agree perfectly, observed disagreement D_o= 0 and α=1, which indicates perfect reliability. On the other hand, when observers agree as if chance had produced the results, D_o=D_e and α=0, which indicates the absence of reliability. In particular, α=0 occurs when observers are unable to distinguish among units or assign values to them drawn

randomly from a collective estimate of the population of data. Krippendorff himself suggests which are the admissible values of the coefficient: "It is customary to require $\alpha \geq 0.800$. Where tentative conclusions are still acceptable, $\alpha \geq 0.667$ is the lowest conceivable limit [206]." In the analysis, the coefficient reached for passion is 0.81105444 and for preparedness is 0.8037, stating the validity of the ratings.

Unlike other specialized coefficients, α has been chosen since it is a generalization of several known reliability indices. It enabled the researchers to judge a variety of data with the same reliability standard. α applies to: (1) any number of observers, not just two; - any number of categories, scale values, or measures; (2) any metric or level of measurement (nominal, ordinal, interval, ratio, and more); (3) incomplete or missing data; (4) large and small sample sizes alike, not requiring a minimum; (5) it evaluates reliability one variable at a time.

3.4.4 Implications and limitations

There are several implications and limitations linked to the scale that the present work employed. Firstly, the way crowdfunding project creators present their idea in an introductory video differs somewhat from a live, on-site presentation: therefore, the measurement can lead to inaccuracies, or it could miss some aspects strictly typical of the crowdfunding setting. Next, over the years a lot of researchers have developed, modified, and integrated the scales: Vallerand et al. [356] provided scales for harmonious and obsessive passion; Cardon, Mitteness, & Sudek [71] validated and modified the Chen scale mainly to adapt it to the angel investing practice, which may differ from VC investing (e.g., [358]).

In the end, this study has exploited completely the Chen et al. [81] scale, which is recognized as the most used and reliable one, since it has been validated now in many studies. Furthermore, this paper concerns a frontier topic and is about to test the

validity of hypotheses within a still uncovered ground and so, the robustness and the solidity of the measurements give the authors more confidence about the reliability of the outcomes.

4. Chapter four: Variables and descriptive analysis

The data set is composed of 300 observations and 31 variables. In the following paragraph a detailed analysis of all the variables used will be given.

4.1 Dependent variable

The variable *State_campaign* is used in the model as the only dependent variable. It has been chosen being the whole study based upon the understanding of how passion and preparedness can affect campaign success, also considering differences in terms of sectors, thus tech and non tech for the reward-based crowdfunding, and differences among crowdfunding typologies, thus equity and reward-based. It is a binary variable coded 1 in case the campaign ended up successfully, 0 otherwise.

4.2 Independent variable

A set of variables has been introduced in the model to obtain a final score in terms of passion and preparedness which represent the only two independent variables. The variables included are considered starting from the scale proposed by Chen et al. [81]. The authors proceeded by giving to each of these variables a score ranged between 1 and 5, where 1 means the entrepreneur shows nothing of what described in the scale, while 5 means that what described is extremely present in the pitch. The researchers

opted for an analysis of the video carried out by each of them independently, to avoid biases. As for what concerns passion, the following variables are analyzed:

- *The presenter(s) had rich body language:* this variable is analyzed by taking into account the combined effect of gestures, facial expressions and energic movements. The analysis proceeded by looking at the emphasis the entrepreneur had while moving. It could be interesting to highlight that a good body language was deemed also in case the entrepreneur did not necessarily move. The idea was to look for the energy shown by the entrepreneur even by looking at him just sit.
- *The presenter(s) showed animated facial expression:* in this case, the traits that has been looked for could be summarized by considering how much the face of the entrepreneur lit up while he was presenting the video. Pitches where the entrepreneur would smile, laugh, wink, blush, show happiness in his/her eyes, were all considered as the ones that well explained the variable.
- *The presenter(s) used a lot of gestures:* this variable resulted to have scores very close to the previous variable *Rich body language,* in which it is embedded. If in the pitch just the hands were shown, without any movement as a support to the explanation, 1 was assigned, otherwise based on how much the gestures were part of the pitch presentation, scores up to 5 were given.
- *The presenter(s) talked with varied tone and pitch:* while analyzing the videos, the researchers looked for not only the use of a varied tone, but also for the use of exclamations, of questions and enthusiasm in the tone used.

Starting from the scores assigned to the variables, it has been possible to obtain a final average score, which was assigned in the end to the passion, for both of the authors.

On the other side, for the preparedness a different scale was used, including the following variables:

- *The presentation content had substance:* while proceeding in the analysis of the pitches, the researchers looked for pitches presenting ideas which were well structured and that could actually bring to a real output.
- *The presentation was thoughtful and in-depth:* this variable showed how much time the entrepreneur spent in preparing the pitch and in general in the ideation of the project which is translated in the details given then to the watcher, the more the details the more the score assigned. To bring an example, while watching the pitch the authors looked for technical specificities, as the number and measure of the elements composing the product, in the case of tech categories.
- *The presentation was coherent and logical:* the variable was analyzed by looking at whether the entrepreneur followed a straight line during the presentation, having a well-set structure or not, enriching the content time by time with additional valuable details.
- *The presenter(s) articulated the relationship between the business plan and the broader context:* as for what concerns this variable, the scores were assigned by giving 1 in the case in which there was no reference to the business plan, otherwise the scores were differentiated by considering as a 3 the cases in which either only the amount or the scheduling were presented while a 5 was assigned to all the cases in which both the scheduling and the amount were cited, by specifying when and how part of the amount goal was needed.
- *The presenter(s) cited facts to support his/her arguments:* the variable was coded by considering both personal facts and/or exogeneous facts supporting and inspiring the entrepreneur for his/her project.

Since the scores were assigned by the two authors independently, in the following paragraph a summary of the distribution of the variables is presented (Table 4.1, Table 4.2, Table 4.3, Table 4.4).

Passion

Rich_body_ language_F	Obs	Mean	Std. Dev.	Min	Max
Successful 0	**150**	**2.5867**	**.8779934**	**1**	**5**
Successful 1	**150**	**3.26**	**.942559**	**1**	**5**
Animated_facial _expresssion_F	Obs	Mean	Std. Dev.	Min	Max
Successful 0	**150**	**2.52**	**.9463459**	**1**	**5**
Successful 1	**150**	**3.206667**	**.9851015**	**1**	**5**
Gestures_F	Obs	Mean	Std. Dev.	Min	Max
Successful 0	**150**	**2.42**	**.9780819**	**1**	**5**
Successful 1	**150**	**2.87333**	**1.051025**	**1**	**5**
Varied_tone _pitch_F	Obs	Mean	Std. Dev.	Min	Max
Successful 0	**150**	**2.46667**	**.848739**	**1**	**5**
Successful 1	**150**	**3.3333**	**.9171496**	**1**	**5**

Table 4.1: Author 1 passion factors' analysis

Rich_body_language	Obs	Mean	Std. Dev.	Min	Max
Successful 0	**150**	**2.26**	**.9927928**	**1**	**5**
Successful 1	**150**	**2.89333**	**1.010991**	**1**	**5**
Animated_facial_expression	**Obs**	**Mean**	**Std. Dev.**	**Min**	**Max**
Successful 0	**150**	**2.47333**	**.9741399**	**1**	**5**
Successful 1	**150**	**3.306667**	**1.028411**	**1**	**5**
Gestures	**Obs**	**Mean**	**Std. Dev.**	**Min**	**Max**
Successful 0	**150**	**2.36667**	**1.089404**	**1**	**5**
Successful 1	**150**	**2.96**	**1.152063**	**1**	**5**
Varied_tone_pitch	**Obs**	**Mean**	**Std. Dev.**	**Min**	**Max**
Successful 0	**150**	**2.45333**	**.9594928**	**1**	**5**
Successful 1	**150**	**3.3333**	**1.109245**	**1**	**5**

Table 4.2: Author 2 passion factors' analysis

Preparedness

Content_substance_F	Obs	Mean	Std. Dev.	Min	Max
Successful 0	**150**	**3.0722**	**1.087431**	**1**	**5**
Successful 1	**150**	**4**	**.8354559**	**2**	**5**
Thoughtful_and_in_depth_F	Obs	Mean	Std. Dev.	Min	Max
Successful 0	**150**	**2.646667**	**1.118104**	**1**	**5**
Successful 1	**150**	**3.48667**	**1.021492**	**1**	**5**
Coherent_and_logical_F	Obs	Mean	Std. Dev.	Min	Max
Successful 0	**150**	**3.14**	**1.117464**	**1**	**5**
Successful 1	**150**	**3.96**	**.8182483**	**2**	**5**
BF_F	Obs	Mean	Std. Dev.	Min	Max
Successful 0	**150**	**2.24**	**1.13268**	**1**	**5**
Successful 1	**150**	**2.84667**	**1.219179**	**1**	**5**
Cited_facts_for_arguments_F	Obs	Mean	Std. Dev.	Min	Max
Successful 0	**150**	**2.68**	**1.249537**	**1**	**5**
Successful 1	**150**	**3.12**	**1.116803**	**1**	**5**

Table 4.3: Author 1 preparedness factors' analysis

Content_substance	Obs	Mean	Std. Dev.	Min	Max
Successful 0	**150**	**2.71333**	**1.05128**	**1**	**5**
Successful 1	**150**	**3.57333**	**.8619213**	**2**	**5**

Thoughtful_and_in_depth	Obs	Mean	Std. Dev.	Min	Max
Successful 0	**150**	**2.79333**	**1.166056**	**1**	**5**
Successful 1	**150**	**3.626667**	**.995812**	**1**	**5**

Coherent_and_logical	Obs	Mean	Std. Dev.	Min	Max
Successful 0	**150**	**3.14**	**1.1471**	**1**	**5**
Successful 1	**150**	**4**	**.9048712**	**2**	**5**

BP	Obs	Mean	Std. Dev.	Min	Max
Successful 0	**150**	**1.986667**	**1.170021**	**1**	**5**
Successful 1	**150**	**2.35333**	**1.351791**	**1**	**5**

Cited_facts_for_arguments	Obs	Mean	Std. Dev.	Min	Max
Successful 0	**150**	**2.68**	**1.239537**	**1**	**5**
Successful 1	**150**	**3.12**	**1.116803**	**2**	**5**

Table 4.4: Author 2 preparedness factors' analysis

To have a unique and homogenous score assigned both to passion and preparedness for each pitch, the average of the overall scores was calculated. The variables *passion* and *preparedness* were analyzed, and as it is possible to notice in the tables below (Table 4.5, Table 4.6), the variables already show acceptable values of skewness and kurtosis thus, the logarithm function was not used to transform the data.

Passion

		Smallest		
1%	**1.125**	**1**		
5%	**1.375**	**1**		
10%	**1.75**	**1.125**	Obs	**300**
25%	**2.25**	**1.125**	Sum of Wgt.	**300**
50%	**2.75**		Mean	**2.794583**
		Largest	Std. Dev.	**0.8478787**
75%	**3.375**	**4.75**		
90%	**5**	**4.875**	Variance	**0.7188982**
95%	**4.25**	**4.875**	Skewness	**0.2806388**
99%	**4.8125**	**4.875**	Kurtosis	**2.79129**

Table 4.5: Passion distribution

Preparedness

		Smallest		
1%	**1**	**1**		
5%	**1.45**	**1**		
10%	**1.75**	**1**	Obs	**300**
25%	**2.4**	**1**	Sum of Wgt.	**300**
50%	**3.1**		Mean	**3.054833**
		Largest	Std. Dev.	**.885805**
75%	**3.7**	**4.8**		
90%	**4.3**	**4.8**	Variance	**.7846504**
95%	**4.4**	**4.9**	Skewness	**-.2288039**
99%	**4.8**	**5**	Kurtosis	**2.524281**

Table 4.6: Preparedness distribution

4.3 Moderators

As it comes to the moderators, multiples have been introduced, a detailed description of all of them follows:

- *d_ECF:* the variable coded as 1 in case the pitch was from an equity crowdfunding campaign, and 0 otherwise, was included to verify the *hypothesis 3* and *4* exploring the different effects of passion and preparedness on the entrepreneur success in the two cases.
- *d_TECH:* this variable is unique both for the equity and reward-based crowdfunding projects, even though, differences arise in the two cases. For the former, the variable refers to a specific statistical classification carried out by the European Union done on economic activities (NACE) for which the authors only took high-tech and high-tech knowledge-intensive services (htec) categories [121]. For instance, while identifying the projects belonging to the so-called categories, the variable was coded 1 only if the following NACE codes were assigned to the projects in the existing database: 21, 26, 59, 60, 61, 62, 63, 64, 65, 66, 72 [259]. For the latter, instead, the variable has been assigned with a value of 1 if the activity belonged to a tech category, as defined by the Kickstarter platform. Only for the reward-based related observations, the tech category and all the others labelled as non-tech were picked so to develop the hypothesis of the study on the differences arising between the two when the influence of passion on the crowdfunding success is considered. This variable is perfectly balanced among the two categories of the Kickstarter sample, given the choice made on top in order to have no biases and consider the same number of observations between the two types. Given the dissimilarities arising from the metrics used to determine tech and non-tech categories, in the two crowdfunding models, each video has been checked manually by both authors

to make sure the allocations to the categories were pertinent. The variable was included to verify the *hypothesis 6* and *7*.

4.4 Control variables

- *d_Country:* as it comes to this variable, it has been defined by considering it equal to 1 in case the location where the project took place is either the United Kingdom or the United States, and 0 otherwise. In this case, it is possible to notice that the variable is quite unbalanced (~78% of the observations have 1 as a result) given that, as mentioned above, the awareness about crowdfunding is much more spread in the before cited countries (Table 4.7).

d_Country	Freq.	Percent	Cum.
0	**67**	**22.33**	**22.33**
1	**233**	**77.67**	**100.00**
	300	**100.00**	

Table 4.7: d_Country distribution

- *d_Gender:* this variable has been controlled so to guard against the possibility of homophily [167], as a matter of fact in sectors which are under-represented by women, as it could be in tech categories, women entrepreneurs tend to "attract" more female crowd-funders, which are more likely to fund them to see their success [155]. As Kuppuswamy & Mollick [217] researched, women are less likely to start projects and be serial fundraises, even though individual female fundraisers and groups composed by at least one female, are more likely to

succeed [89], [155]. These reasons drove the authors towards the usage of the variable which is coded 1 in the case in which the enterprise is run by a man and 0 if the enterprise is run by a female. Also, in this case the variable does not appear well balanced, given that the cases in which the entrepreneur running the business is a male, is almost four times (~80%) as much as the cases in which the enterprise is run by a female (Table 4.8).

d_Gender	Freq.	Percent	Cum.
0	**60**	**20.00**	**20.00**
1	**240**	**80.00**	**100.00**
	300	**100.00**	

Table 4.8: d_Gender distribution

- *d_Year 2016:* dummy variable coded as 1 if the pitch was done in 2016, 0 otherwise.
- *d_Year 2017:* dummy variable coded as 1 if the pitch was done in 2017, 0 otherwise.
- *d_Year 2018:* dummy variable coded as 1 if the pitch was done in 2018, 0 otherwise.
- *d_Exp:* last of the dummy variables, this was coded 1 in the case in which it was verified the entrepreneur had previous experience in the field, and 0 otherwise. For what concerns the Kickstarter entrepreneurs, the previous experience was counted by seeing whether the entrepreneur had sponsored other projects before the one taken into account for the analysis or whether in the description of her/himself previous experiences in the field were highlighted. On the other

side, for the equity crowdfunding videos, on Crowdcube and Seedrs, starting from the database, the variable *CEO funder startup experience* and *CEO funder industry experience* were analyzed. The former highlights whether the entrepreneur had experience in other startups, the latter refers to the experience of the entrepreneur in the industry of interest. Only in the case in which both of the variables had value 1, the dummy was coded as 1, on the contrary in all the other cases the variable was coded as 0. Coming to the analysis of the distribution of the variable, it appears well balanced seeing a slightly majority of entrepreneurs lacking previous experience, but only in a small percentage (~52% VS ~48%, Table 4.9).

d_Exp	Freq.	Percent	Cum.
0	**157**	**52.33**	**52.33**
1	**143**	**47.67**	**100.00**
	300	**100.00**	

Table 4.9: d_Exp distribution

Moving on to the continuous variables, all of them refer to the characteristics of the pitches themselves, and they were chosen so to maintain consistency across the stimuli and control for the general diversity that exists among funding pitches both on Kickstarter and the equity crowdfunding platforms.

- *Team_size:* controlled in two different ways for the two typologies of crowdfunding. As for what concerns Crowdcube and Seedrs, the result of the variable was obtained by looking at the database, while for the Kickstarter

pitches by looking at the description of each pitch noticing for any mention of a team group. In cases in which this did not happen, a deeper analysis of the entrepreneur description was made, seeing if any information could be detected. What it was possible to notice is that the team usually had a greater number of members in the case of equity crowdfunding because of the intrinsic characteristics of the equity crowdfunding campaign being more formal and structured. From an analysis of the variable, it is possible to notice how the highest value reached is of 31 while, of course, the smallest is 1 obtained in the cases in which the team is represented only by the entrepreneur/founder.

Moreover, almost the totality of the projects has a number of people in the team lower than 10. This last data might be biased though, given that the sample is represented in two thirds by reward-based crowdfunding projects and only in one third by equity crowdfunding projects.

Variable	Obs	Mean	Std. Dev.	Min	Max
ln_team_size	**200**	**.8211829**	**.8715325**	**0**	**3.433987**

Table 4.10: ln_team_size analysis ECF

Variable	Obs	Mean	Std. Dev.	Min	Max
ln_team_size	**100**	**1.632266**	**.5525517**	**0**	**3.295847**

Table 4.11: ln_team_size analysis reward-based CF

As for what concerns the analysis of the variable, it is possible to notice how in this case by using the logarithm function, the skewness and kurtosis are improved, reason why the *log* will be used in the model (Table 4.10, Table 4.11, Table 4.12, Table 4.13).

ln_team_size

		Smallest		
1%	**0**	**0**		
5%	**0**	**0**		
10%	**0**	**0**	Obs	**300**
25%	**0**	**0**	Sum of Wgt.	**300**
50%	**1.098612**		Mean	**1.091544**
		Largest	Std. Dev.	**.8679298**
75%	**1.609438**	**2.995732**		
90%	**2.197225**	**3.218876**	Variance	**.7533021**
95%	**2.524928**	**3.295837**	Skewness	**.2584031**
99%	**3.107304**	**3.433987**	Kurtosis	**2.199436**

Table 4.12: ln_team_size logarithm distribution

Team_size

		Smallest		
1%	**1**	**1**		
5%	**1**	**1**		
10%	**1**	**1**	Obs	**300**
25%	**1**	**1**	Sum of Wgt.	**300**
50%	**3**		Mean	**4.376667**
		Largest	Std. Dev.	**4.408276**
75%	**5**	**20**		
90%	**9**	**25**	Variance	**19.4329**
95%	**12.5**	**27**	Skewness	**2.564798**
99%	**22.5**	**31**	Kurtosis	**11.8083**

Table 4.13: Team_size distribution

- *ln_video_length*: it expresses the duration of the video pitch in minutes. In this case, from the analysis of the variable it came out that the usage of the logarithm function improved the skewness and kurtosis, reason why the *log* was used in the model (Table 4.14).

Variable	Obs	Mean	Std. Dev.	Min	Max
ln_video_lenght	**300**	**4.305692**	**.8058112**	**0**	**5.209486**

Table 4.14: ln_video_length analysis

- *ln_goal*: it expresses the amount goal to be reached in terms of money (Table 4.15, Table 4.16). This variable was registered in the database with the original currency, but in order to have a homogeneous database, all the funding goal amounts were transformed in U.S. dollars, on the equity side, by converting each value through the exchange rate at the end of the year of interest, on the other side, by using the variable *static_usd_rate* already available in the Kickstarter videos database.

As it is possible to notice from the data, the funding goal for the equity projects has a minimum value of ~$12.000 while, for the reward-based crowdfunding projects, the minimum amount is set to a way lower level ~$500, moreover, for the equity projects there is a standard deviation equal to more than the double that of the reward-based ones.

Variable	Obs	Mean	Std. Dev.	Min	Max
ln_goal	**200**	**10.03041**	**1.436159**	**6.214608**	**13.71015**

Table 4.15: ln_goal analysis reward-based CF

Variable	Obs	Mean	Std. Dev.	Min	Max
ln_goal	**100**	**12.6198**	**0.7868575**	**9.392078**	**14.38954**

Table 4.16: ln_goal analysis ECF

4.5 Models

To test the different hypotheses, a logistic regression model has been used because of its characteristics which allow to easily implement the model as well as give a clear output to interpret. The logit model has been also chosen because it is usually used to model dichotomous outcome variables: as a matter of fact, the dependent variable *State_campaign* is binary, having value 0 when the campaign is failed and 1 when it is successful. In particular, the response variable, being a probability 0%-100%, needs to be analyzed further through the investigation of the marginal effects. In this way, it is possible to express through the coefficients how the predicted probability of a binary outcome changes with a change in a control.

To the extent of this research, four models of interest have been derived as follows (Table 4.17):

(1)	$$Logit\left(State_{campaign}\right) = \alpha_0 + \alpha_n * passion + \alpha_m * preparedness + \alpha_i \sum_{\alpha=1}^{8} Control$$
(2)	$$Logit\left(State_{campaign}\right) = \beta_0 + \beta_n * passion + \beta_m * preparedness + \beta_a * passion * d_{ECF} + \beta_b * preparedness * d_{ECF} + \beta_i \sum_{\beta=1}^{9} Control$$
(3)	$$Logit\left(State_{campaign}\right) = \gamma_0 + \gamma_n * passion + \gamma_m * preparedness + \gamma_a * passion * preparedness + \gamma_i \sum_{\gamma=1}^{8} Control$$
(4)	$$Logit\left(State_{campaign}\right) = \delta_0 + \delta_n * passion + \delta_m * preparedness + \delta_a * passion * d_{TECH} + \delta_b * preparedness * d_{TECH} + \delta_i \sum_{\gamma=1}^{7} Control$$

Table 4.17: Models' equations

4.5.1 Model 1

The first model aims to verify the influence of entrepreneur's displayed passion and preparedness on the campaign's success in the equity crowdfunding model. Thus, it has been decided to employ in the model all those controls that could improve the predictive accuracy of the statistical model and that could be, in turn, correlated positively or negatively with the campaign outcome: *ln_goal, ln_video_length, d_Country, ln_team_size, d_Gender, d_Exp, d_year*, d_TECH.* Ideally this model should be able to capture to which extent the independent variables (*passion, preparedness*) influence (in a negative or positive way) the dependent variable (*State_campaign*) and

so confirm or not the hypothesis. Also, thanks to the fact that the marginal effects have been calculated for all the variables, it is possible to easily extract this information from the regression coefficients, even comparing each other.

4.5.2 Model 2

The second model relies on both the equity and reward-based crowdfunding samples to test the third and fourth hypotheses, using the dummy *d_ECF* as mediator with the aim of evaluating in which sample the passion and preparedness effects are higher.

Being the entire dataset analyzed, the interactions between the controls, the predictors and the predicted variable change. Besides, in this case the researchers consider both the coefficients and the confidence intervals of the interested variables, since the former have the purpose of giving the idea of how much they affect the outcome while the latter explain the possible variability in terms of values of the coefficients, allowing a more precise understanding of the effects.

4.5.3 Model 3

The third model aims to verify the mediating effect of passion on preparedness for the equity crowdfunding projects. In this case, the variable *passion* works as the mediator such that it is possible to assess the presence of a certain trend in the relation between passion, preparedness and campaign success.

4.5.4 Model 4

To test the sixth and seventh assumptions, a model relying uniquely on Kickstarter sample has been built, with the dummy variable *d_TECH* as a mediator of the explanatory variables' effects on the model response. Again, the responding variable is affected differently by the controls and by passion and preparedness. Eventually, the model outcomes are also tested on more levels of significance and then those statistics are graphed from the fitted models to deliver a better visualization of the results.

5. Chapter five: Model assessment

5.1 Model results

The results presented in this chapter follow the logit models that have been elaborated and shown previously. Since four models have been developed, the presentation of the results follows this logical sequence for a duty of clarity and ease of consultation. The following table (Table 5.1) summarizes the regression coefficients of the explanatory and control variables of the model.

	(1) M1	(2) M2	(3) M3	(4) M4
State_camp~n				
passion	0.974**	1.745***	-0.314	2.315***
	(0.371)	(0.275)	(1.588)	(0.510)
preparedness	0.623	0.943***	-0.573	1.134*
	(0.466)	(0.281)	(1.536)	(0.480)
ln_goal	-1.320**	-0.807***	-1.353**	-0.869***
	(0.428)	(0.205)	(0.419)	(0.261)
ln_video_l~t	0.320	0.0796	0.343	0.00864
	(0.585)	(0.208)	(0.578)	(0.275)
d_Country	1.198	0.298	1.259	-0.194
	(0.625)	(0.401)	(0.654)	(0.607)
ln_team_size	0.886	0.499*	0.799	0.475
	(0.575)	(0.228)	(0.610)	(0.260)
d_Gender	0.889	0.611	0.770	0.371
	(0.833)	(0.422)	(0.798)	(0.496)
d_Exp	0.0260	0.612	0.0297	0.979*
	(0.606)	(0.332)	(0.604)	(0.406)
d_year*	YES	YES	YES	YES
d_TECH	0.638	1.600***	0.664	
	(0.731)	(0.445)	(0.729)	
1.d_ECF		5.533**		
		(1.793)		
1.d_ECF#c.~n		-1.015*		
		(0.412)		
1.d_ECF#c.~s		-0.0722		
		(0.520)		
c.passion#~s			0.379	
			(0.492)	
1.d_TECH				5.434*
				(2.505)
1.d_TECH#c~n				-0.769
				(0.629)
1.d_TECH#c~s				-0.346
				(0.542)
N	100	300	100	200

Marginal effects; Standard errors in parentheses
(d) for discrete change of dummy variable from 0 to 1
* p<0.05, ** p<0.01, *** p<0.001

Table 5.1: Models' results

5.1.1 Model 1

The model presented is only composed by the moderators and the control variables. It is possible to notice how the only presence of these variables is not able to successfully explain the model, having a value for the R^2 equal to the ~32%.

	(1) M1Basic	(2) M1
State_camp~n		
ln_goal	-0.862*	-1.320**
	(0.355)	(0.428)
ln_video_l~t	0.673	0.320
	(0.481)	(0.585)
d_Country	0.684	1.198
	(0.574)	(0.625)
ln_team_size	0.775	0.886
	(0.515)	(0.575)
d_Gender	0.334	0.889
	(0.749)	(0.833)
d_Exp	-0.0365	0.0260
	(0.596)	(0.606)
d_year*	YES	YES
d_TECH	0.575	0.638
	(0.590)	(0.731)
passion		0.974**
		(0.371)
preparedness		0.623
		(0.466)
N	100	100

Marginal effects; Standard errors in parentheses
(d) for discrete change of dummy variable from 0 to 1
* p<0.05, ** p<0.01, *** p<0.001

Table 5.2: Model 1 basic and extended

As it comes to the variables (Table 5.2), it is not possible to make any reasoning about the incidence they have on the probability of success in equity crowdfunding pitches,

other than for the variable goal (*ln_goal, p-value 0.023*) and year (*d_year3, p-value 0.000*). Even though, looking at the result of the *Wald Chi squared test* and being it higher than the critical values for every level of significance (*p-value 0.000*), it is not possible to affirm that all the variables are not significant. Focusing on the two variables before cited, at 5% and 10% levels of significance it can be stated that as the funding goal set raises by 1%, the probability of success decreases by 13 percentage points, ceteris paribus (c.p.). For the other variable, the probability of success increases of 36 percentage points, as the project belongs to the year 2017, c.p..

Testing the first two hypotheses, model 1 is used: the increase of the variables allows to better explain the model, given the raise in the value of the R^2 to 42%, as it happened before, also in this case all the variables are verified to be significant at all levels of α chosen.

The first hypothesis stating that "*In an equity crowdfunding campaign video pitch, an entrepreneur's displayed entrepreneurial passion is positively associated with the project's equity crowdfunding performance."* is verified, being the coefficient of the variable *passion* positive and significant at all levels (*passion, p-value 0.003*). As the passion increases, the probability of success increases as well by 12 percentage points, ceteris paribus (Table A.8). The second hypothesis, stating that "*In an equity crowdfunding campaign video pitch, an entrepreneur's displayed preparedness is positively associated with the project's equity crowdfunding performance."*, cannot be verified because the p-value is higher than any level of α chosen (*preparedness, p-value 0.176*), thus no reasoning can be carried out when it comes to this variable (Table A.8). In this case, it is also possible to notice how whether the location is the UK/USA or others can change the effect on the probability of success. As a matter of fact, with levels of significance of 10% and 5%, if the location is either the US or the UK the effect on the campaign success is greater, being the coefficient positive.

5.1.2 Model 2

	(1) M2Basic	(2) M2IndepVar	(3) M2
State_camp~n			
ln_goal	-0.694***	-0.800***	-0.781***
	(0.149)	(0.199)	(0.205)
ln_video_l~t	0.530**		
	(0.183)		
d_Country	-0.116	0.352	0.329
	(0.327)	(0.403)	(0.405)
ln_team_size	0.827***	0.576**	0.521*
	(0.204)	(0.220)	(0.228)
d_Gender	0.355	0.626	0.625
	(0.362)	(0.416)	(0.428)
d_Exp	0.505	0.565	0.598
	(0.293)	(0.320)	(0.334)
d_year*	YES	YES	YES
d_TECH	0.993**	1.532***	1.587***
	(0.357)	(0.454)	(0.447)
d_ECF	2.544***	2.599***	
	(0.552)	(0.729)	
passion		1.203***	1.738***
		(0.222)	(0.271)
preparedness		1.047***	1.026***
		(0.247)	(0.283)
1.d_ECF			5.517**
			(1.797)
1.d_ECF#c.~n			-1.004*
			(0.411)
1.d_ECF#c.~s			-0.0605
			(0.527)
N	300	300	300

Marginal effects; Standard errors in parentheses
(d) for discrete change of dummy variable from 0 to 1
* p<0.05, ** p<0.01, *** p<0.001

Table 5.3: Model 2 basic and extended

As it comes to model 2, in this case all the sample of 300 observations is analyzed. Evidence comes from various variables (Table 5.3). Starting with the team size (*ln_team_size, p-value 0.000*), it is reasonable to say that as the number of people in a team increases by one percent, the probability of success increases as well by 15 percentage points, ceteris paribus, at all levels of significance. In this case also the prior experience (*d_Exp, p-value 0.077*) has a positive influence, more specifically entrepreneurs who are known to have prior experience in the sector or who have already been promotors of other projects have 9% probability more to have success with their venture, but this can be affirmed only with a level of significance of 10%. In the cases in which the project was carried on either in year 2016 (*d_year2, p-value 0.000*) or in year 2017 (*d_year3, p-value 0.000*), there is a greater probability of success, specifically of 59% more in the first case, and 45% more in the second one, ceteris paribus. Moreover, projects belonging to a tech category, as identified before, (*d_TECH, p-value 0.004*) happen to have the 18% probability more of success, and the same happens to projects from equity platforms (*d_ECF, p-value 0.000*) with a probability of 45%, for both the variables this can be affirmed at all levels of significance, ceteris paribus.

Moving on to the analysis of the two independent variables of passion and preparedness (Table A.9), it is possible to see how for the whole sample both the variables have a positive effect on the success of the venture and are significant at all levels (*passion, p-value 0.000; preparedness, p-value 0.000*), while at a general level the funding goal is found to have a negative effect on the success (*ln_goal, p-value 0.000*) and as in the previous case the team size (*ln_team size, p-value 0.008*) positively affects the final success of the campaign. Still, as beforehand stated, projects belonging to a tech category (*d_TECH, p-value 0.000*) are found to have a greater effect on the success, as well as the ones which are from the equity crowdfunding (*d_ECF, p-value 0.000*), for

both the variables this can be said at all significance levels, ceteris paribus. Furthermore, looking at the *Wald Chi squared test* variable (*p-value 0.000*) it cannot be affirmed that all the variables are not jointly significant.

Average marginal effects Number of obs = **300**
Model VCE **: Robust**

Expression **: Pr (State_campaign) , predict ( )**
dy/dx w.r.t. **: Passion**

1._at : d_ECF = 0
2._at : d_ECF = 1

		dy/dx	Delta-method Std. error	z	P > |z|	[95% Conf.	Interval]
passion							
	1	**.2072086**	**.03008931**	**6.71**	**0.000**	**.1466593**	**.267758**
	2	**.0739887**	**.0332896**	**2.22**	**0.026**	**.0087423**	**.1392352**

Table 5.4: Passion marginal effects on ECF and reward-based CF

Average marginal effects Number of obs = **300**
Model VCE **: Robust**

Expression **: Pr (State_campaign) , predict ( )**
dy/dx w.r.t. **: Preparedness**

1._at : d_ECF = 0
2._at : d_ECF = 1

		dy/dx	Delta-method Std. error	z	P > |z|	[95% Conf.	Interval]
preparedness							
	1	**.11282328**	**.0292507**	**3.86**	**0.000**	**.055025**	**.1701631**
	2	**.084352**	**.0493117**	**1.79**	**0.073**	**-.0082139**	**.1850843**

Table 5.5: Preparedness marginal effect on ECF and reward-based CF

Continuing to verify the hypotheses stated, it is necessary to introduce in the model the moderator variable, *d_ECF* in this case, which identifies whether a project is a reward-based or an equity-based one. As it comes to the third hypothesis this is found to be verified, since as it is possible to see from the margins calculated (Table 5.4), the value of the coefficient of passion for the reward-based case is positive, and higher than the one obtained in the equity case. Specifically, when the project belongs to the reward-based category (*d_ECF, p-value 0.000*) as the displayed passion increases by 1%, the campaign success increases by 21 percentage points, ceteris paribus. While in the case of equity crowdfunding pitches (*d_ECF p-value 0.027*), as the passion displayed increases by 1%, the success still increases, ceteris paribus, but in a lower measure if compared to the reward-based, only by 7 percentage points, ceteris paribus. This can be affirmed with a confidence level of 5%.

As far as it concerns the fourth hypothesis, this is not verified, being the confidence intervals overlapped (Table 5.5).

5.1.3 Model 3

To test the fifth hypothesis, stating that "*When preparedness is high, the effect of passion increases the probability of success of equity crowdfunding campaigns.*", it has been introduced *passion* as a moderator. Results are shown in model 3, Table 5.6, while a graphic visualization of the interaction effect is provided in Figure A.6, where it is possible to notice how passion increases the effects of preparedness on the campaign success and how this is significant for levels of preparedness higher than 3. The hypothesis is verified at a 5% significance level, for levels of preparedness which are already high (i.e., *preparedness > 3*).

	(1) M3
State_camp~n	
passion	-0.314
	(1.588)
preparedness	-0.573
	(1.536)
c.passion#~s	0.379
	(0.492)
ln_goal	-1.353**
	(0.419)
ln_video_l~t	0.343
	(0.578)
d_Country	1.259
	(0.654)
ln_team_size	0.799
	(0.610)
d_Gender	0.770
	(0.798)
d_Exp	0.0297
	(0.604)
d_year*	YES
d_TECH	0.664
	(0.729)
N	100

Marginal effects; Standard errors in parentheses
(d) for discrete change of dummy variable from 0 to 1
* p<0.05, ** p<0.01, *** p<0.001

Table 5.6: Model 3

5.1.4 Model 4

	(1) M4Basic	(2) M4IndepVar	(3) M4
State_camp~n			
ln_goal	-0.704***	-0.853***	-0.869***
	(0.177)	(0.249)	(0.261)
ln_video_l~t	0.503*	0.0122	0.00864
	(0.215)	(0.259)	(0.275)
d_Country	-0.457	-0.0636	-0.194
	(0.438)	(0.601)	(0.607)
ln_team_size	0.862***	0.454	0.475
	(0.229)	(0.256)	(0.260)
d_Gender	0.337	0.394	0.371
	(0.428)	(0.486)	(0.496)
d_Exp	0.742*	0.931*	0.979*
	(0.338)	(0.413)	(0.406)
d_year*	YES	YES	YES
d_TECH	1.166*	2.349***	
	(0.478)	(0.608)	
passion		1.903***	2.315***
		(0.297)	(0.510)
preparedness		0.975**	1.134*
		(0.304)	(0.480)
1.d_TECH			5.434*
			(2.505)
1.d_TECH#c~n			-0.769
			(0.629)
1.d_TECH#c~s			-0.346
			(0.542)
N	200	200	200

Marginal effects; Standard errors in parentheses
(d) for discrete change of dummy variable from 0 to 1
* p<0.05, ** p<0.01, *** p<0.001

Table 5.7: Model 4 basic and extended model

Model 4 only sees the analysis of 200 out of the total observations in the sample, being the focus shifted towards the reward-based model pitches. Contrary to the first model, in this case the funding target reveals a negative effect on the final success (*ln_goal, p-value 0.000*) leading to its decrease of 13 percentage points as the funding goal increases by 1%, ceteris paribus, at all levels of significance. As it also happened formerly, the team size (*ln_team_size, p-value 0.000*), the prior experience (*d_Exp, p-value 0.023*) and the projects belonging to tech categories (*d_TECH, p-value 0.009*) positively affect the campaign success. Differently from Model 1, it is possible to notice a positive effect of 9 percentage points, ceteris paribus, on the campaign success coming also from the variable concerning the length of the video pitch (*ln_video_length, p-value 0.015*).

Even for this model, an evaluation of the different marginal effects of all the variables is considered by adding the two independent variables passion and preparedness (Table A.10). As a matter of fact, both of them appear to be positively related to the campaign success, just partially as in the case of equity crowdfunding. As the evaluated displayed passion (*passion, p-value 0.000*) increases by 1%, the probability of success increases by 24 percentage points, ceteris paribus, and as the preparedness (*preparedness, p-value 0.000*) increases by 1%, the probability of success increases as well by 12 percentage points, ceteris paribus.

Average marginal effects Number of obs = **200**

Model VCE : **Robust**

Expression : **Pr (State_campaign) , predict ( )**
dy/dx w.r.t. : **Passion**

1._at : d_TECH = 0
2._at : d_TECH = 1

		dy/dx	Delta-method Std. error	z	P > |z|	[95% Conf.	Interval]
passion							
	1	**.2409128**	**.0465397**	**5.18**	**0.000**	**.1496967**	**.3321288**
	2	**.1837278**	**.0492912**	**4.35**	**0.000**	**.1010345**	**.266421**

Table 5.8: Passion marginal effects on tech and non-tech projects

Average marginal effects Number of obs = **200**

Model VCE : **Robust**

Expression : **Pr (State_campaign) , predict ( )**
dy/dx w.r.t. : **Preparedness**

1._at : d_TECH = 0
2._at : d_TECH = 1

		dy/dx	Delta-method Std. error	z	P > |z|	[95% Conf.	Interval]
preparedness							
	1	**.1179617**	**.0395589**	**2.98**	**0.003**	**.0404277**	**.1954957**
	2	**.093566**	**.0371518**	**2.52**	**0.012**	**.0207499**	**.1663822**

Table 5.9: Preparedness marginal effect on tech and non-tech projects

Lastly, in order to verify hypotheses six and seven, stating respectively that "*In reward-based crowdfunding, the positive effect of passion is higher in non-tech projects than in tech projects.*" and "*In reward-based crowdfunding, the positive effect of preparedness is higher in tech projects than in non-tech projects.*", the variable *d_TECH* is introduced to discern projects belonging to the tech categories and those belonging to the non-tech ones, as identified before. Differently from the results the authors were expecting, it is possible to notice that as far it concerns the effect of preparedness on success, the effect is greater for non-tech than tech projects (*preparedness 0.12>0.09*) while the passion effect seams in line with what stated in the hypothesis (*passion 0.24>0.18*) (Table 5.8, Table 5.9). Even though, for the coefficients of both the variables, it is possible to see that the intervals partially overlap themselves, meaning that what just stated above can only be partially declared.

5.2 Results discussion

5.2.1 Model 1

Ahlers et al. [4], find that there is no significant relationship between target funding and the number of investors in equity crowdfunding, instead, Lukkarinen et al. [229] find a positive, albeit not strongly relationship, associated to the number of investor and also specify there is not significant effect of the funding goal on the amount raised. These prior results differ with the ones in model 1 in which higher funding targets imply a lower probability of campaign success. Hakenes and Schlegel [130] support that high funding targets may provide security to funders in equity- and debt-based crowdfunding, as their investments will only go through if adequately many other people also view the campaign sufficiently positively to invest. On the other hand, in the authors' perspective, it is reasonable to suppose that backers could have a different view: firstly, as the amount set is higher, the higher is the risk of not reaching the goal,

and the crowd-funders might prefer investing in projects with a lower goal set; moreover, in the case of projects with higher funding target, crowd-funders would look for more specifics and technical details about the idea, while evaluating the campaign, in order to match the goodness of the project with its actual realization. Fundraisers are not always aware of these implicit requests, lacking in providing them. As an additional explanation starting from the fact a higher amount sought means higher post-money valuation of the venture, given the same pre-money valuation levels, backers might perceive the entrepreneur as not fully confident of her/his venture, since she/he is leaving more equity stake available to the public [297]. Furthermore, the control over the year variable highlighting a greater probability of success for the year 2017 might be explained by the fact that in the authors' random cherry-picking a greater number of successful projects belonged to the year before cited. In any case Li et al. [222], explained how over the biennium 2016-2017 crowdfunding platforms and the level of competition among projects grew dramatically.

As verified by the model outcomes, the first hypothesis is in line with the literature which highlights how the fundraising process in equity crowdfunding is like the one of reward-based crowdfunding where displayed entrepreneurial passion positively influences crowdfunding success. On the other hand, preparedness has not been found to significantly affect the success at any level differently from the positive relations found in prior literature regarding professional investors [71], [81] and reward-based ones (e.g., [107]). A first explanation may be related to the fact that in equity crowdfunding only a part of the investors is deemed to be made by professional investors, differently from the case regarding VCs and BAs. Besides, on the contrary to what happens in reward-based crowdfunding, equity investors can perceive preparedness more as a pre-requirement to be displayed by entrepreneurs seeking

fundings, not valuing it in relation to the campaign success. This finding can be clarified by further research. As it comes to the location effect on the campaign success, there is a clear positive effect in the case in which the location of the project is identified to be either the UK or the US. As stated by Mollick et al. [250] there is a strong geographic component to the nature of the projects, with funders proposing projects that reflect the underlying cultural products of their geographic area: Crowdcube, Seedrs and Kickstarter are UK- and US-based platforms, thus the majority of the projects of the sample come from these two locations, which in the authors' mind might be characterized by a greater will of the investors to embrace crowdfunding initiatives. Also referring to the Cho et al. [82] and to A. Rossi et al. [297] works, the number of platforms, the amount raised from these countries and the number of studies conducted focusing on the UK and US crowdfunding markets make them inarguable the leaders in the crowdfunding trend. In conclusion, the present study has the merit to investigate the entrepreneurial passion effects in different contexts with respect to prior research: the outcomes observed related to passion are similar considering different crowdfunding platforms, crowdfunding models, locations and industries.

5.2.2 Model 2

The analysis of the second model brings in some different results with respect to the previous one; in this case the sample considers both equity and non-equity crowdfunding projects, adding more variety to the starting information.

The first thing to notice is that the size of the entrepreneurial team behind the project and the experience of the entrepreneur/founder in terms of industry or entrepreneurial experience are positively correlated to the campaign success at different levels of

significance. This fits with the literature focusing on VCs using them as signals during the screening process [28], [105], [183], [298] and with the studies indicating these factors as the focal points of the investment decision regarding a new venture [81], [233], [350], [351].

Moreover, the results are consistent with Colombo et al. [89] and Frydrych et al. [138] stating that groups of individuals succeed more than individual fundraisers in the crowdfunding context; besides, Allison et al. [7] report that entrepreneur-specific issue-relevant information of education and industry or prior crowdfunding experience have been demonstrated to be both positively related to crowdfunding performance. Such findings explain how investors, even if being often both able and well-motivated, given the relatively high financial stakes associated with traditional and crowdfunding contexts, may consciously seek out (or desire) strong, issue-relevant information of these types.

Besides, the second model underlines also the positive relation among equity crowdfunding campaigns and campaign success. In this case, the authors believe that, differently from reward-based crowdfunding platforms, the equity crowdfunding ones apply an initial screening process for those entrepreneurs willing to raise capital in order to test the goodness of their idea and the risk; in this way, it is possible to filter from the beginning those projects more inclined to fail, making the fundraising campaigns more monitored than the ones on Kickstarter, for instance.

To the extent of verifying the third hypothesis, the model results are in line with what highlighted beforehand: the positive effect of displayed passion in equity crowdfunding is lower than the one obtained in reward-based model. Even if affected positively by passion, equity crowdfunding investors seem to rely more on the financial characteristics and returns of the projects backed differently than the less sophisticated reward-based crowd-funders. Besides, it is relevant to underline that

despite what the authors expected, there is no statistical evidence on the comparison of the preparedness effect between the two distinct crowdfunding models. Future research could analyze further this relation collecting more data on the differences in terms of backers' characteristics to understand whether any pattern could be derived.

5.2.3 Model 3

The third model aims at verifying the positive effect of preparedness on crowdfunding success, moderated by displayed entrepreneurs' passion. This finding in the equity crowdfunding sample is in line with Cardon et al. [71] regarding professional investors: the results indicate that displayed preparedness does have an indirect effect on interest of AIs in the venture, with the effect occurring through perceived passion. The effect of displayed passion and its relationship with preparedness and campaign success has been object of more recent studies also in the reward-based crowdfunding. From an article appeared in the July–August 2015 Harvard Business Review journal [133], it is mentioned the work of Herzenstein, Sonenshein and Dholakia [174] in which it is suggested that passion might become negative if it is given too much emphasis either in the entrepreneurs' minds or in their communications with potential crowd-funders. Instead, entrepreneurs should balance their expressions of displayed passion using them as an addition to their displayed preparedness.

These findings are confirmed in the context of equity crowdfunding, where it is shown how passion is effective on high levels of preparedness, positively influencing the fundraising success. The effect size measured shows that when preparedness is higher than a score equal to 3, the additional passion effect can increase the incidence on campaign success from about 11% to 18% (Table A.7). This has been found to be reasonable by the authors since, being the targeted crowd represented by more

sophisticated investors with respect to the reward-based model, if an entrepreneur shows a low level of preparedness, it does not affect backers' investment decisions, even if the displayed passion is substantive. Both entrepreneurs and their audience should be aware that without preparedness, passion is worth little.

5.2.4 Model 4

In this case the sample is based only on the Kickstarter data and so, the results are discussed considering the reward-based literature. The targeted fundraising goal is negatively correlated with the campaign success, consistent with the results indicating that higher funding goals are negatively associated with success [61], [98], [150],[250], [386]. It is possible to have different results for different forms of crowdfunding as supported by Belleflamme et al. [38], who show that smaller targets are preferable in reward-based campaigns and larger targets in equity crowdfunding. Besides, several studies have shown also that higher targets lead to a greater number of crowd-funders but pledging lower amount of capital [89], and greater difficulties in getting legitimacy [138].

It is important to remark that the length of the video pitch is found to be positively correlated with the campaign success. This is consistent with Johan and Zhang's [189] equity crowdfunding study that found that the length of qualitative business description ("costless" signal) is correlated with higher funding. Anyway, opposite results have been observed in Scheaf et al.'s [300] work, since the analysis made on the Kickstarter sample reported that video length was not significantly related to funding success, and in Davis et al. [107] research, that found that the longer the entrepreneurial pitch, the lower the predicted reward-based crowdfunding campaign success. In addition, Troise et al. [347] focused their investigation on equity

crowdfunding campaigns assessing that the pitch video length was negatively related to the number of investors without impacting funding raised amount, though as percentage of the goal. The authors believe that the positive relation among video length and crowdfunding success found in the present work may be related to the modality through which data has been collected. To assess passion and preparedness only campaigns whose video pitches lasted longer than a minute were considered, hence, it is possible that the length of the video pitch may be an indicator of the scope of the informativeness of the video pitch itself.

The positive relation between team size and entrepreneur's prior experience with crowdfunding success is coherent with prior literature results, as described in the Model 2 section.

As far as it concerns the control of the *d_TECH* variable, the positive outcome obtained on the campaign success might seem in contrast with the data retrieved previously in Table 3.3. Here, the success rate of technology projects is the lowest among all the presented Kickstarter categories. This is due to the fact that the amount pledged by the investors for this type of projects is placed among the biggest available for the categories; thus, the authors observe how the target sought is set to higher levels when it comes to tech categories, making it more challenging to meet the goal set.

This model highlights that passion and preparedness increase the likelihood to succeed with a Kickstarter campaign, echoing the work of Davis et al. [107], of Calic & Mosakowski [64] and of Li et al. [222].

The authors expectations related to passion and preparedness different outcomes in the tech and non-tech categories are partially supported. As stated in the work of Chan et al. [78], each project category exhibits distinct investment patterns and preferences leading to various outcomes in terms of effect on the final campaign success. Chan et

al. [78], state for instance that projects in technology product category would have more sophisticated investors and setting up such projects would require significant time and effort from an entrepreneur, whereas the costs of setting up projects in non-tech product category may not be as high and the investors may not be as sophisticated. The higher level of expertise of investors backing technology projects, hence, could justify the lower influence of passion and preparedness on the success for this category. In order to have a clearer understanding of the phenomenon, further experimental studies are deemed important.

One of the most surprising outcomes that the model did not show is related to the correlation among the entrepreneur/founder gender and the campaign success. There have been numerous studies focused on this topic, mainly in the reward-based crowdfunding context: it has been proven that women are less likely to start projects and be serial fundraisers due to their lower confidence [217], but individual female fundraisers and groups with at least a woman are more likely to succeed [89], [138], [155]. Some reasons have been given by Greenberg & Mollick [155], stating that female fundraisers attract more female crowd-funders, especially in technological projects, and that besides, in sectors where women are under-represented, female crowd-funders fund female fundraisers to make them relatively more successful [155].

Recently, these studies have been conducted also in the equity crowdfunding environment. In general, access to equity financing is particularly problematic for female entrepreneurs, who are 63% less likely to raise equity funding than their male counterparts [161]; one of the main reasons for this discrimination against women is that conventional equity financing comes mainly from male-dominated sources, such as venture capital and Business Angels [54], [167]. Equity crowdfunding has been judged as a "game-changer", as it offers the potential to democratize entrepreneurial finance for female entrepreneurs, as well as for other underrepresented groups [99],

[364]. Observational data from US equity crowdfunding campaigns indicates that female-led ventures raise significantly less funding, and this effect is amplified for larger campaigns [145]. In contrast, recent experimental evidence shows that the crowd does not discriminate against female entrepreneurs and that equity crowdfunding could indeed have the potential to close the gender gap apparent in conventional markets for equity financing [18]. Kleinert & Mochkabadi [202] results suggest that female entrepreneurs in tech sectors raise significantly less funding and attract fewer investors and that, when female entrepreneurs send role incongruent signals (e.g., management experience), the negative effect becomes even more pronounced. Anyway, they deem equity crowdfunding to have the potentiality to increase access to external equity capital for female-led technology ventures: when female entrepreneurs act in accordance with their gender stereotypes, they could attract more funding than their male counterparts.

In this study, the absence of effects in any model of the gender variable on the fundraising outcome can be explained through the limited number of women entrepreneurs composing the overall sample, given the fact that the main researched goals were related to displayed passion and preparedness rather than to gender: collecting more data could be useful for further insights.

6. Chapter six: Conclusions

6.1 Summary of the results

The literature concerning crowdfunding is relatively new compared to other themes of the Entrepreneurial Finance literature. Even if the concept of crowdfunding has deep historical roots, the keyword "crowdfunding" first appeared in Wired Magazine in 2006 [182]. A lot of definitions have been used to define crowdfunding, but they were always specific to the context of the study [344]; a first holistic attempt came from Lambert & Schwienbacher [218], followed by many others [36], [131], [173], [365], [374]. Over the last ten years, the crowdfunding literature has expanded shedding light on the different crowdfunding models, on the determinants of crowdfunding success, on the characteristics of crowdfunding campaigns and backers, and on the role of the crowd-funders (e.g., [89], [250], [362]).

In parallel, research has been investigating professional investors' investment decision making process (e.g., [175], [289], [331], [357]). One investment criteria receiving increasing attention is entrepreneurial passion (e.g., [71], [73], [81], [355]). Following this stream of literature, researchers have started to explicitly examine the impact of displayed entrepreneurial passion in crowdfunding, in order to assess its influence on the funding amount, on the number of backers and, thus, on the overall campaign success. These investigations have been mainly focused on the reward-based crowdfunding model (e.g., [7], [107], [222]), while it is possible to find only recently an increasing attention towards the equity crowdfunding model (e.g., [229], [346], [363]).

This study aimed at analyzing the effect of entrepreneurial displayed passion and preparedness in different crowdfunding models (reward-based crowdfunding vs equity crowdfunding) and in different industry sectors (Tech vs non-Tech sectors). The

necessity of implementing this kind of research derives from the attempt to tackle the issue of not having a comprehensive view about entrepreneurial passion influence in different contexts.

The present work aims to build from these premises by employing a novel dataset based on 300 crowdfunding campaigns held between 2016 and 2018 and retrieved from the following platforms: Crowdcube, Seedrs and Kickstarter. Each crowdfunding campaign video pitch has been evaluated by both authors in order to assess the entrepreneur's displayed passion and preparedness, relying on the Chen et al. [81] passion scale.

6.2 Theoretical contributions

The research contributes to both the literature on entrepreneurial passion and crowdfunding. It is important to investigate the crowdfunding context and the effect of passion on crowd-investors as, recently, crowdfunding has emerged as an acceptable and popular alternative way for entrepreneurs to fund their early-stage businesses (e.g., [55], [314]). Moreover, according to Lukkarinen et al. [229], equity crowdfunding shares some similarities both with professional investors decision making process and with reward-based crowdfunding models. On the other hand, professional investors are only a part of the equity investors involved in crowdfunding; in addition, equity backers are deemed to be more sophisticated than reward-based ones. Displayed entrepreneurial passion and preparedness effects have been found to be positively correlated to campaign success [107], [222] while Chen et al. [81] work remarks how only preparedness has a significant positive effect on funding decisions of professional investors (VCs/BAs). Thus, the study contributes to this stream of research comparing the effect of passion for different levels of investors'

professionalization (i.e., reward-based crowdfunding backers and equity crowdfunding investors).

More in detail, the main contributions of this study regard three aspects: the displayed passion and preparedness roles in equity investors' decision-making process, the comparison between the effects of passion and preparedness in reward-based and equity crowdfunding models and the different crowdfunding campaign outcomes in tech and non-tech sectors due to displayed entrepreneurial passion and preparedness.

The results underline how entrepreneurial passion affects positively crowdfunding success (H1), while displayed preparedness does not exercise any significant effect (H2). These findings highlight that equity investors decision making process could be considered like the one of reward-based backers but, differently from it, preparedness is seen as a pre-requirement for entrepreneurs to be successful. These results are consistent also with the idea that, in equity crowdfunding, a high displayed entrepreneurial passion strengthens the high displayed preparedness outcome on crowdfunding success (H5): it is rational to think that equity investors perceive as more persuasive those competent crowd-funders showing high affection towards their project/venture.

Another important contribution of this study relies on the discoveries made by researching how passion and preparedness affect differently crowdfunding campaigns in different crowdfunding models. The authors believe that equity backers were less likely to be influenced by passion and preparedness in their investment decisions than reward-based ones (H3, H4), being more qualified. While results show a positive impact of passion in both equity and reward-based models, this effect is actually higher in reward-based crowdfunding campaigns. Thus, Model 2 analyses support *hypothesis 3*. Instead, no statistical evidence is found on the comparison of the preparedness effect between the two distinct crowdfunding models, not supporting

hypothesis 4. These results show how equity investors may pay more attention to the financial characteristics and returns of the projects supported than the less sophisticated reward-based ones.

In the end, the influence of displayed passion on the campaign success is found to be higher in non-tech sectors than in tech ones (H6), and the same occurs with preparedness (H7). These results are in part aligned to the Chan et al. [78] work stating that higher level of expertise of investors backing technology projects could justify the lower influence of passion and preparedness on the success for this pitches' category.

A summary of the findings is shown below (Table 6.1).

Model	Hypothesis	Resutls
Model I	*(H1) In an equity crowdfunding campaign video pitch, an entrepreneur's displayed entrepreneurial passion is positively associated with the project's equity crowdfunding performance.*	*Displayed entrepreneurial passion positively influences the crowdfunding success in equity crowdfunding, being significant at all levels (p-value 0.003)*
	(H2) In an equity crowdfunding campaign video pitch, an entrepreneur's displayed preparedness is positively associated with the project's equity crowdfunding performance.	*Preparedness does not present any correlation with the crowdfunding success in equity crowdfunding (p-value 0.176)*
Model II	*(H3) The positive effect of displayed passion in equity crowdfunding is lower than the one in reward-based crowdfunding .*	*Displayed entrepreneurial passion positive effect is lower in reward-based crowdfunding (p-value 0.000) than in equity crowdfunding (p-value 0.027)*
	(H4) The positive effect of preparedness in equity crowdfunding is lower than the one in reward-based crowdfunding .	*Preparedness influence cannot be compared being the confidence intervals overlapped in the two cases.*
Model III	*(H5) When preparedness is high, the effect of passion increases the probability of success of equity crowdfunding campaigns.*	*The effect size measured shows that when preparedness is higher than a score equal to 3, the additional passion effect can increase the incidence on campaign success from about 11% to 18%.*
Model IV	*(H6) I n reward-based crowdfunding, the positive effect of passion is higher in non-tech projects than in tech projects .*	*Displayed entrepreneurial passion influence cannot be compared being the confidence intervals overlapped in the two cases.*
	(H7) I n reward-based crowdfunding, the positive effect of preparedness is higher in tech projects than in non-tech projects	*Preparedness influence cannot be compared being the confidence intervals overlapped in the two cases.*

Table 6.1: Models' hypothesis and relative results

6.3 Practical Implications

The main practical implications of this study are useful for entrepreneurs seeking funding from crowdfunding platforms. Backers have different decision-making processes based on the model of crowdfunding targeted; accordingly, the influence of displayed entrepreneurial passion and preparedness is different.

The authors found that, in an equity crowdfunding context, a one-point increase in displayed entrepreneurial passion generally leads to a 12% (Model 1) increase in campaign success probability; on the contrary, displayed preparedness has been found not to have any significant effects on crowdfunding success (Model 1). Only when preparedness is deemed to be high, a high displayed passion raises campaign success chances from about 11% to 18% (Model 3). Hence, it is suggested that entrepreneurs launching an equity crowdfunding project should invest time and effort in developing a campaign video that clearly demonstrates their passion for their project [222]. It should contain an upbeat and positive voice tone and bold hand gestures [81] and should be edited to ensure that the entrepreneur's passion for the project is appropriately conveyed.

For practitioners, this study suggests that displayed passion exhibited by entrepreneurs in reward-based crowdfunding campaigns strengthens entrepreneurs' ability to succeed in their fundings more than what it does in an equity crowdfunding context (Model 2). Moreover, it was not possible to draw any conclusions about a comparison related to displayed preparedness influence. Given that, entrepreneurs seeking funds through both a reward-based crowdfunding campaign and an equity crowdfunding campaign during different fundraising rounds of their ventures should set up different video pitches for their campaigns. Also relying on Model 1 outcomes, it is clear now that displaying only one between high entrepreneurial passion or preparedness is enough to increase the campaign's likelihood of success in a

Kickstarter context. On the other side, equity investors might consider high preparedness as a pre-requirement to be displayed by entrepreneurs during their video pitches and without it, even high displayed passion might not be enough to increase campaign success probabilities.

This research contributes also to the understanding of displayed entrepreneurial passion and preparedness influence considering the industry sector addressed by the campaign. Analyses, even if only partially, verified the higher displayed passion and preparedness effects in non-tech sectors than in tech ones. Therefore, it is possible to assume that entrepreneurs seeking funding for non-tech projects may be willing to remark more their affective passion through the campaign's video pitch. In addition, entrepreneurs sustaining campaigns in non-tech sectors should focus also on being better prepared in delivering their ideas and business plans, since entrepreneurs who have an accurate and detailed knowledge about their proposals and who display a thorough understanding of the opportunities and challenges, face a better position to receive investment funds [81].

6.4 Limitations and Future Developments

As mentioned above, this study tries to evaluate displayed entrepreneurial passion and preparedness effectiveness on crowdfunding success in different contexts. Researchers' intention is to offer a preliminary analysis about a frontier topic emerging over the last years. Even if the results of the proposed work are consistent and some of the hypotheses formulated have been confirmed, the research has some limitations, which is correct to point out.

First, the present work used a relatively small sample of crowdfunding projects to validate the research hypotheses, which may be partially responsible for the lack of

support for some of them. Surely the collection phase has been affected by the need to drop all those projects whose video pitches were not suitable for the displayed passion and preparedness evaluations and by the multiple assessments the authors performed in order to get a reliable and agreed value of entrepreneurial passion. Therefore, studies using a larger sample of projects are thus needed to examine the influence of passion and preparedness on crowdfunding performances. Moreover, future experimental studies can assess entrepreneurial passion and preparedness of the entrepreneurs in the crowdfunding campaigns using a real sample of investors and different scales of entrepreneurial passion (e.g., [69]) to reach more valid passion and preparedness ratings.

Another limitation may be the omission of some control variables used in the four models to verify the hypotheses. The main obstacle, in this case, has been the fact that, in order to deal with models comparing different crowdfunding types, it has been necessary to retrieve only that information that was homogeneous between the campaigns of the two crowdfunding types. As a matter of fact, some variables were possible to be retrieved just for one type of campaign: for instance, the characteristics of the backers and the duration of the launched campaign were exclusive of the Kickstarter projects; on the other side, equity crowdfunding campaigns involved ventures at different capital fundraising rounds and this could have been taken into account as one of the determinants of success. Thus, being data available just for one type of campaign or being data exclusive of one crowdfunding model, the final set of control variables resulted to be limited. Future research could enrich the analysis by adding these variables and get more precise models.

In addition, given the models' outcomes in which it has been found that crowdfunding success is impacted by other elements like the fundraising goal, the venture team size, the entrepreneur's prior experience and the length of the video pitch, it could be

possible to extend the research by examining other variables effects in conjunction with passion. For instance, it may be worth considering whether humor [13], storytelling [226], background music [269] and/or physical attractiveness [52] account for campaign success in conjunction with passion.

Another constraint of this study is the investigation of the displayed passion and preparedness effects in different industry sectors only related to the reward-based crowdfunding context. In order to consider this, the *d_TECH* variable was introduced including, from one side, projects of the Technology category of Kickstarter and, on the other side, the equity crowdfunding campaigns in the categories defined by the specific statistical classification carried out by the European Union done on economic activities (NACE) as high-tech and high-tech knowledge-intensive services (htec). Hence, additional research is also needed with the aim to explore a possible different influence of passion and preparedness in different industry sectors in the context of equity crowdfunding.

Many possible future research lines may be originated to answer and solve the limitations that this study implies and that have just been presented; moreover, many possible future research lines may arise from the models' results. The present work not only continues the investigation related to the linkage between displayed entrepreneurial passion and the investment criteria of crowdfunding backers, but also aims to open the research field focused on the different passion and preparedness effects in different crowdfunding contexts.

Further research can be conducted to test the validity of these findings and to expand their outcomes.

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A. Appendix

Table A.1: Crowdfunding types and industries

Authors	Type of crowdfunding	Industry / category
Colombo et al. (2015)	Reward-based	Design, technology, film and video, and video games
Hobbs, Grigore, Molesworth (2015)	Reward-based	Filmmaking
Lukkarinen, Teich, H. Wallenius, J. Wallenius (2016)	Equity	Cross-industry
Vulkan, Astebro, Sierra (2016)	Equity	Cross-industry
Thomas H. Allison, Blakley C. Davis, Justin W. Webb, Jeremy C. Short (2017)	Reward-based	Cross-industry
C.S. Richard Chan, Annaleena Parhankangas (2017)	Reward-based	Hardware, software, technology, video games, and product design
Davis, Hmieleski, Webb, Coombs (2017)	Reward-based	Cross-industry
Li, CHen, Kotha, Fisher (2017)	Reward-based	Technology
Aaron H. Anglin, Jeremy C. Short, Will Drover, Regan M. Stevenson, Aaron F. McKenny, Thomas H. Allison (2018)	Reward-based	Cross-industry
Li Lu (2018)	Reward-based	3D printing projects
Pyayt P. Oo, Thomas H. Allison, Arvin Sahaym, Sakdipon Juasriku (2019)	Reward-based	Cross-industry
Troise, Tani (2020)	Equity	Cross-Industry

Table A.2: Equity crowdfunding platforms

	Seedrs	Crowdcube
Launched	July 2012	February 2011
Founders	Jeff Lynn and Carlos Silva	Darren Westlake and Luke Lang
HQ	London (has offices in Lisbon, Berlin, Amsterdam and New York)	Exeter (has offices in London and Spain)
Proposition	FCA-regulated – and the first platform to receive FCA-approval – equity-based crowdfunding platform. It allows investors to back anything from £10 or €10 into "businesses they believe in" – it offers three campaigns; equity campaigns, funds and convertible campaigns.	FCA-regulated, equity-based crowdfunding platform. Claims to give entrepreneurs "more control and access to more investors". Also offers a mini-bond scheme whereby companies can raise money by offering investors a fixed return per annum.
Focus	Seedrs is a full lifecycle platform, supporting companies from seed stage start-ups through to publicly-listed companies.	Start-ups through to growth-stage businesses. 46% have been early-stage, 28% start-ups, and 26% growth.
External funds raised	Over £13m	Over £12.8m
Key Backers	Seedrs is backed by star fund manager Neil Woodford, Faber Ventures, Augmentum Fintech PLC (listed on the London Stock Exchange Main Market and Europe's largest listed fintech fund) and over 2,000 of its own customers.	Balderton Capital, Draper Esprit, Numis
Advisors	Includes tennis ace Andy Murray, Zopa co-founder James Alexander, and TechCrunch editor Mike Butcher	Includes Draper Esprit CEO Simon Cook, Draper Associates founder Tim Draper, and Numis CEO and founder Oliver Hemsley
Deal structure	Operates a nominee structure whereby investors hold equity interest but only Seedrs sits on the cap table. This enables start-ups to raise follow-on funding with ease and also ensures investor protections such as pre-emption to prevent dilution of shares.	Investors hold a direct equity interest in a company subject to the rights and risks of any other minority investor. Crowdcube also offers a nominee structure, which it launched in February 2015 when JustPark used the platform to raise £3.7m.
Fees	6% fee for successful raises	7% fee for successful raises (excl. VAT)
No. of investors	Not publicly disclosed	In excess of 340,000
Total amount raised for business	Over £395m (July 2018)	Over £212m (February 2017)
No. of raisers	Over 662 (July 2018)	481 (January 2017)
Largest fundraising	Seedrs (£7.07m) and Perkbox (£4.35m)	BrewDog (£10m)
Average no. of investors per raise	280	225
Top Sectors	Fintech, food & drink, tech	Tech, internet companies, and food & drink
Exits	Wealthify, FreeAgent and Blow Ltd. The Seedrs Secondary Market has facilitated trading of over 600 share lots enabling early exits for investors, including investors in Revolut.	Three – E-Car Club, Camden Town Brewery and Wool and the Gang

Figure A.3: Average marginal effect of passion for dummy variable d_ECF and relative confidence intervals (Model 2)

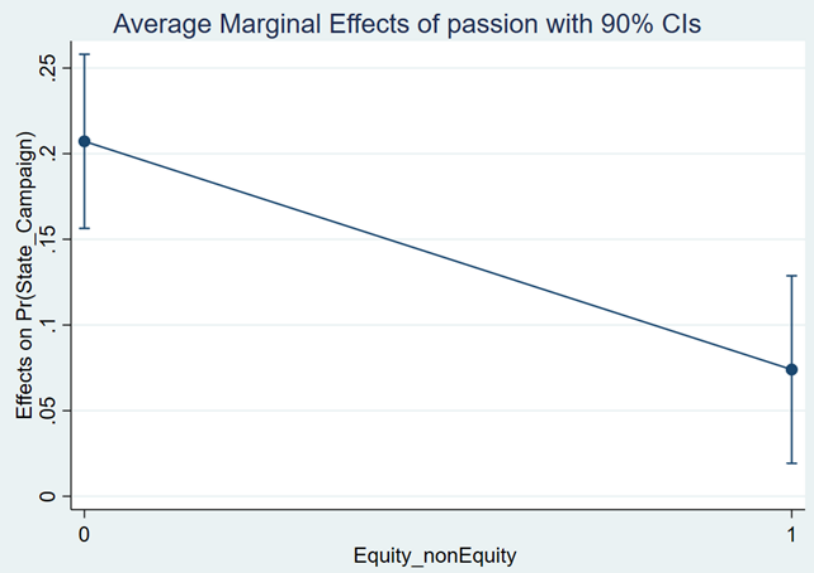

Figure A.4: Average marginal effect of preparedness for dummy variable d_ECF and relative confidence intervals (Model 2)

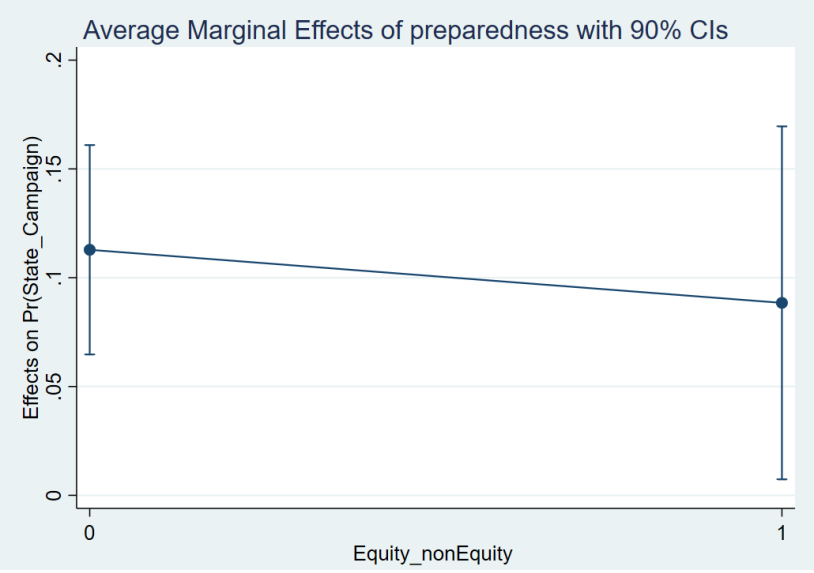

Table A.5: Basic models results (Model 1, Model 2, Model 4)

	(1) M1basic	(2) M2basic	(3) M4basic
State_camp~n			
ln_goal	-0.862*	-0.694***	-0.704***
	(0.355)	(0.149)	(0.177)
ln_video_l~t	0.673	0.530**	0.503*
	(0.481)	(0.183)	(0.215)
d_Country	0.684	-0.116	-0.457
	(0.574)	(0.327)	(0.438)
ln_team_size	0.775	0.827***	0.862***
	(0.515)	(0.204)	(0.229)
d_Gender	0.334	0.355	0.337
	(0.749)	(0.362)	(0.428)
d_Exp	-0.0365	0.505	0.742*
	(0.596)	(0.293)	(0.338)
d_year*	YES	YES	YES
d_TECH	0.575	0.993**	1.166*
	(0.590)	(0.357)	(0.478)
d_ECF		2.544***	
		(0.552)	
N	100	300	200

Marginal effects; Standard errors in parentheses
(d) for discrete change of dummy variable from 0 to 1
* p<0.05, ** p<0.01, *** p<0.001

Figure A.6: Average marginal effect of passion for unchanged values of preparedness (Model 3)

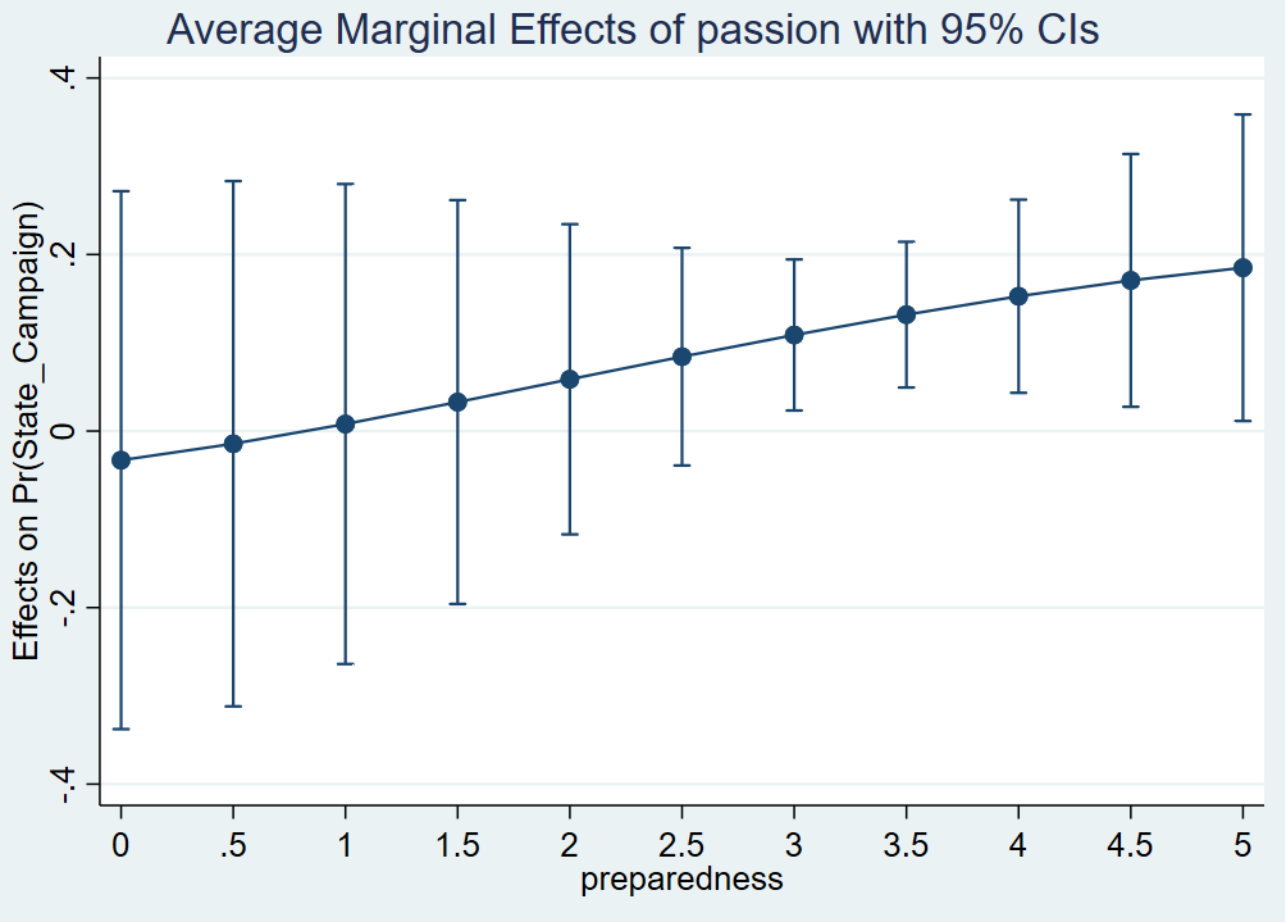

Table A.7: Marginal effect of passion for set values of preparedness (Model 3)

Average marginal effects — Number of obs = **100**

Model VCE : **Robust**

Expression : **Pr (State_campaign) , predict ( )**
dy/dx w.r.t. : **Passion**

1._at	: preparedness	=	**0**
2._at	: preparedness	=	**.5**
3._at	: preparedness	=	**1**
4._at	: preparedness	=	**1.5**
5._at	: preparedness	=	**2**
6._at	: preparedness	=	**2.5**
7._at	: preparedness	=	**3**
8._at	: preparedness	=	**3.5**
9._at	: preparedness	=	**4**
10._at	: preparedness	=	**4.5**
11._at	: preparedness	=	**5**

		dy/dx	Delta-method Std. error	z	P > |z|	[95% Conf.	Interval]
passion	1	**-.0329999**	**.1554737**	**-0.21**	**0.832**	**-.3377227**	**.2717229**
	2	**.0143831**	**.1518151**	**-0.09**	**0.925**	**-.3119352**	**.2831691**
	3	**.007978**	**.1378736**	**0.06**	**0.954**	**-.2639395**	**.2798955**
	4	**.0328401**	**.11677141**	**0.28**	**0.778**	**-.1959153**	**.2615956**
	5	**.05686794**	**.0896433**	**0.65**	**0.513**	**-.1170182**	**.234377**
	6	**.0842652**	**.0628944**	**1.34**	**0.180**	**-.0390057**	**.207536**
	7	**.1088374**	**.0436568**	**2.49**	**0.013**	**.0232716**	**.1944032**
	8	**.1318636**	**.0421**	**3.13**	**0.002**	**.049349**	**.2143771**
	9	**.1527309**	**.0558374**	**2.74**	**0.006**	**.0432915**	**.2621702**
	10	**.1706764**	**.0730635**	**2.34**	**0.019**	**.0274746**	**.3187782**
	11	**.1850518**	**.0885866**	**2.09**	**0.037**	**.0114252**	**.3586785**

Table A.8: Marginal effect (Model 1)

	dy/dx	Delta-method Std. error	z	P > |z|	[95% Conf.	Interval]
passion	.1246839	.0418429	2.98	0.003	.0426734	.2066944
preparedness	.0797318	.0588964	1.35	0.176	-.0357031	.1951668
ln_goal	-.1689794	.0500672	-3.38	0.001	-.2671093	-.0708494
ln_video_length	.0409463	.0731485	0.56	0.576	-.1024222	.1843147
d_Country	.1533477	.0729693	2.10	0.036	.0103305	.2963649
ln_team_size	.113371	.0721675	1.57	0.116	-.0280747	.2548167
d_Gender	.1137932	.1046595	1.09	0.277	-.0913356	.318922
d_EXP	.0033269	.0777348	0.04	0.966	-.1490306	.1556843
d_year1	0	omitted				
d_year2	0	omitted				
d_year3	.32403	.049056	6.61	0.000	.227882	.4201779
d_year4	0	omitted				
d_TECH	.0816556	.0918346	0.89	0.374	-.0983369	.261648

Table A.9: Marginal effects (Model 2)

	dy/dx	Delta-method Std. error	z	P > |z|	[95% Conf.	Interval]
passion	.1790014	.0263707	6.79	0.000	.1273157	.230687
preparedness	.1236436	.0308543	4.01	0.000	.0631703	.1841169
ln_goal	-.063091	.0184283	-3,42	0.001	-.0992098	-.0269723
ln_video_length	.0171533	.0310519	0.55	0.581	-.0437074	.078014
d_Country	.0209592	.0560919	.037	0.709	-.0889789	.1308973
ln_team_size	.1045263	.0314406	3.32	0.001	.0429039	.1661488
d_Gender	.1042622	.0528951	1.97	0.049	.0005897	.207948
d_EXP	.0910866	.0453431	2.01	0.045	.0022158	.1799573
d_year1	0	omitted				
d_year2	.3482233	.0893586	3.90	0.000	.1730836	.5233629
d_year3	.2877558	.0785834	3.66	0.000	.13337352	.4417764
d_year4	0	omitted				
d_TECH	.1144635	.04995959	2.29	0.022	.0164734	.2124537

Table A.10: Marginal effects (Model 4)

	dy/dx	Delta-method Std. error	z	P > |z|	[95% Conf.	Interval]
passion	.2438543	.036054	6.72	0.000	.1726971	.3150115
preparedness	.124856	.331384	3.77	0.000	.0599059	.1898061
ln_goal	-.1092651	.0262254	-4.17	0.000	-.1606659	-.0578642
ln_video_length	.0015648	.0331831	0.05	0.962	-.0634729	.0666026
d_Country	-.0081421	.0770428	-0.11	0.916	-.1591432	.142859
ln_team_size	.0581884	.0310906	1.87	0.061	-.0027479	.1191248
d_Gender	.0504636	.0610879	0.83	0.409	-.0692664	.1701936
d_EXP	.1192233	.520862	2.29	0.022	.0171363	.2213103
d_year1	0	omitted				
d_year2	.1217207	.0583055	2.09	0.037	.007444	.2359974
d_year3	0	omitted				
d_year4	0	omitted				
d_TECH	.3009565	.0654485	4.60	0.000	.1726798	.4292332

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